SOAP IIA-4000, a modification of SOAP IIA, will assemble programs written for the IBM 650 Data Processing System having a 4000 word drum and any array of auxiliary equipment. The assembly program itself requires only a basic 650 with 4000 word drum and an alphabetic device.

Programs containing any number of symbols can be assembled, as with SOAP IIA, by means of the multiple pass feature. Programs containing as many as 1200 symbols, however, can be assembled in one pass.

SOAP coding of programs remains the same as for SOAP IIA with the exception that tagging of Drum Instruction Addresses is prohibited. Tagging of instructions is treated in detail below.

The internal flow of SOAP IIA-4000, is identical to that of SOAP II A except for subroutine 18 which handles indexing. Tagging of basic drum addresses in the 4000 word system is significantly changed while tagging of high speed storage addresses, subject to one restriction, remains unchanged. Minor changes were also necessary in the load availability table subroutine, subroutine 2 (reserve, unreserve), subroutine 11 (find and reserve best) and subroutine 14 (punch availability table) because of the fact that it now takes eight sequential locations in the availability table to record the status of each dynamic level. The symbol and equivalence tables have been extended, in addition to the availability table, and relocated on the drum.

Reserve Drum: RDR

A new pseudo op-code, Reserve Drum (RDR), has been incorporated into SOAP IIA-4000. This pseudo op-code rapidly reserves the entire drum. It is useful where less than half the drum is to be available for assembling a program or subroutine. In normal use, it would come immediately prior to a BLA card for the desired portion of the drum, and operates substantially faster than a BLR card.

Example: Assemble a 250 instruction subroutine within the limits of 3700-3999.

```
RDR
BLA     3700   3999
```

Previous procedure required the slower method of:

```
BLR     0000   3699
```

Tagging of Instructions

As before, the letter A, B, or C after the Drum or Instruction Address of a

SOAP instruction indicates that the address is to be modified by the corresponding indexing register. Therefore, when coding a tagged instruction in SOAP language, the user has only to observe the restriction noted below, as the program itself will increase the address by the correct factor.

Because of the expanded drum storage, a basic drum address is now defined as one within the range 0000-3999. Therefore, tagging of addresses must conform to the following rules:

1) Drum and Core Data-Addresses may be tagged.
2) Drum Instruction Addresses can not be tagged.
3) Core Instruction Addresses may be tagged unless the Data-Address is a Drum Address tagged by Indexing Accumulator B or C.

Assembly of Tagged Instructions

To indicate that a Drum D-Address is to be modified by the contents of Indexing Register A, ·4000 is added to the D-address by the program.

If a Drum D-Address is to be modified by the contents of Indexing Register B, 4000 is added to the I-Address when it is a Drum address. However, if the I-Address is a 9000 address (IAS) or an 800x address, 800 is added to the I-Address.

To indicate that a Drum D-Address is to be modified by the contents of Indexing Register C, 4000 is added to the D-address; and the I-Address position is augmented by 4000 or 800 depending on whether it is a Drum address or an 800x or 9000 address.

When core Data Addresses are tagged, 200 400 or 600 is added to the D-Address to indicate that it is tagged by A, B, or C. Similarly with a core I-Address tagged by Indexing Register A, B, or C, 200, 400, or 600 is added to the I-Position, with the exception noted above, in Indexing of Instructions.

Examples: Indexing Drum Data Address

Index D by A

	RAL	3699 A	1254	65	7699	1254	(D + 4000)

Index D by B

	RAL	3699 B	1254	65	3699	5254	(I + 4000)
	RAL	3699 B	8002	65	3699	8802	(I + 800)
	RAL	3699 B	9000	65	3699	9800	(I + 800)

2

Index D by C

RAL	3699 C	1254	65	7699	5254	(D&I+4000)
RAL	3699 C	8002	65	7699	8802	(D+4000)
						(I + 800)
RAL	3699 C	9000	65	7699	9800	(D+4000)
						(I + 800)

Indexing Core Addresses

RAL	9000 A	1254	65	9200	1254	(D+200)
RAL	9000 B	8002	65	9400	8002	(D+400)
RAL	9000 C	9005	65	9600	9005	(D+600)
RAL	1254	9000 A	65	1254	9200	(I +200)
RAL	9000 B	9000 C	65	9400	9600	(D+400, I 600)
RAL	8002	9000 B	65	8002	9400	(I+ 400)
RAL	3699 A	9000 A	65	7699	9200	(D+4000, I 200)

Examples of Incorrect Tagging

RAL	1254	1900 A	(Illegal tag of Drum I-Address)
RAL	1254 B	9000 B	(Core I-Address tagged when D
RAL	1254 C	9000 A	address is drum loc. tagged by
			B or C)

If an instruction is incorrectly tagged, the assembled output card will have a blank I-Address.

Type 3 Cards

A type 3 card, specified by a 3 punch in column 41, is processed in exactly the same way as a type "blank" card. The output card, however, will have in columns 1-10, 69 1954 8000, to bypass loading. Thus, these type 3 cards, now do not have to be removed from the assembled deck prior to loading.

					cols. 1-10 of assembled card	
Example 1:	Optimize Variable I-Address					
		ALO	MODFY	8002		
	MODFY	STU	NXT	TEST	69	1954	1953
3	MODFY	STU	NXT	SWTCH	69	1954	8000
Example 2:	Optimize consecutive instructions with identical I-Addresses					
		RAU	WD 1	TEST		
3	TEST	NZU	B	9999		
	B	STU	A	NEXT		
	TEST	NZU	B	NEXT		

?

OPERATING INSTRUCTIONS

Operating instructions are the same as for SOAP IIA, except that the starting console setting is:

70   1952   9999

The SOAP IIA-4000 deck is consecutively numbered in columns 8-10, and is checked for sequence when being loaded. Sequence checking starts with the 5th card, which is the last card of the load routine. If any card is out of order, or missing, a halt will appear on the console.

01   4000   0xxx

The three low order digits of the halt indicates the card which is out of order, or in the case of a missing card, the card following the last correct card.

Clear read hopper, correct sequence and reload, starting at the beginning of the deck.

4.

PROGRAM ASSEMBLY WITH SOAP II A-4000

Translation and assembly of symbolic program instructions by SOAP II A-4000 are accomplished in the same manner as by SOAP II A except for the previously mentioned restrictions on indexing. A skeletal description of the assembly process is repeated here for the convenience of the user. For more specific information, refer to the SOAP II A Bulletin (J28-4001).

Input Cards

Symbolic coding is restricted to columns 41-72 according to the format indicated on the 650 SOAP II Program Sheets. In addition, column 80 must not contain a 12, 1, 2, 3, 4, 5, 6, or 7 punch and column 2 and 41 must not contain a y(12) punch. A 12 punch in these columns would designate a card as a load card and it would be treated as an availability table card.

Assembly

SOAP II A-4000 will completely translate and assemble each instruction processed until the maximum number of symbols has been entered in the symbol table. Since there is room for 1200 symbols, partial assembly will begin after the instruction containing the 1198th new symbol. Upon entry to the partial assembly phase, the symbol table will contain 1198, 1199, or 2000 symbols depending on whether the 1198th new symbol was found in the L, D, or I position of the instruction and whether it was followed by other new symbols. In the partial assembly phase, only those symbols already in the symbol table are translated and a digit inserted into a control word to indicate that a particular symbol has been translated. This control digit is punched into column 80 of the output card.

Following each machine pass, the last output card must be checked to determine whether assembly has been complete or whether another pass is necessary. A 9 punch in column 80 of any card indicates a completely assembled instruction. An 8 punch in column 80 together with any other punch signifies a partially assembled instruction. If the last output card contains a 9 punch in column 80 or is an availability table card, then assembly is complete. If this is not the case, all cards containing a 9 punch in column 80 must be removed and held and the balance of the deck used as input for the next pass. This process must be repeated until all output cards of a pass are found to be assembled. Then the sections removed and held are placed together to form the final output deck. . Figure 1 describes this process graphically.

Output Cards

All output cards will be punched with one or more identifying digits in column 80. These are as follows:

Identification	Meaning
9	Completely assembled cards (no other punches will appear in such cards).
8	Incompletely assembled cards (may appear alone or in combination with 4, 5, 6, or 7).
7	I-address translated.
6	D-address translated.
5	Location translated.
4	First incompletely assembled card of the machine pass.

INPUT   OUTPUT

1st Pass

Symbolic
Program
Deck

SOAP
4000

Partially
Assembled
Cards

Assembled
Cards

2nd Pass

Assembled
Cards

Final Deck
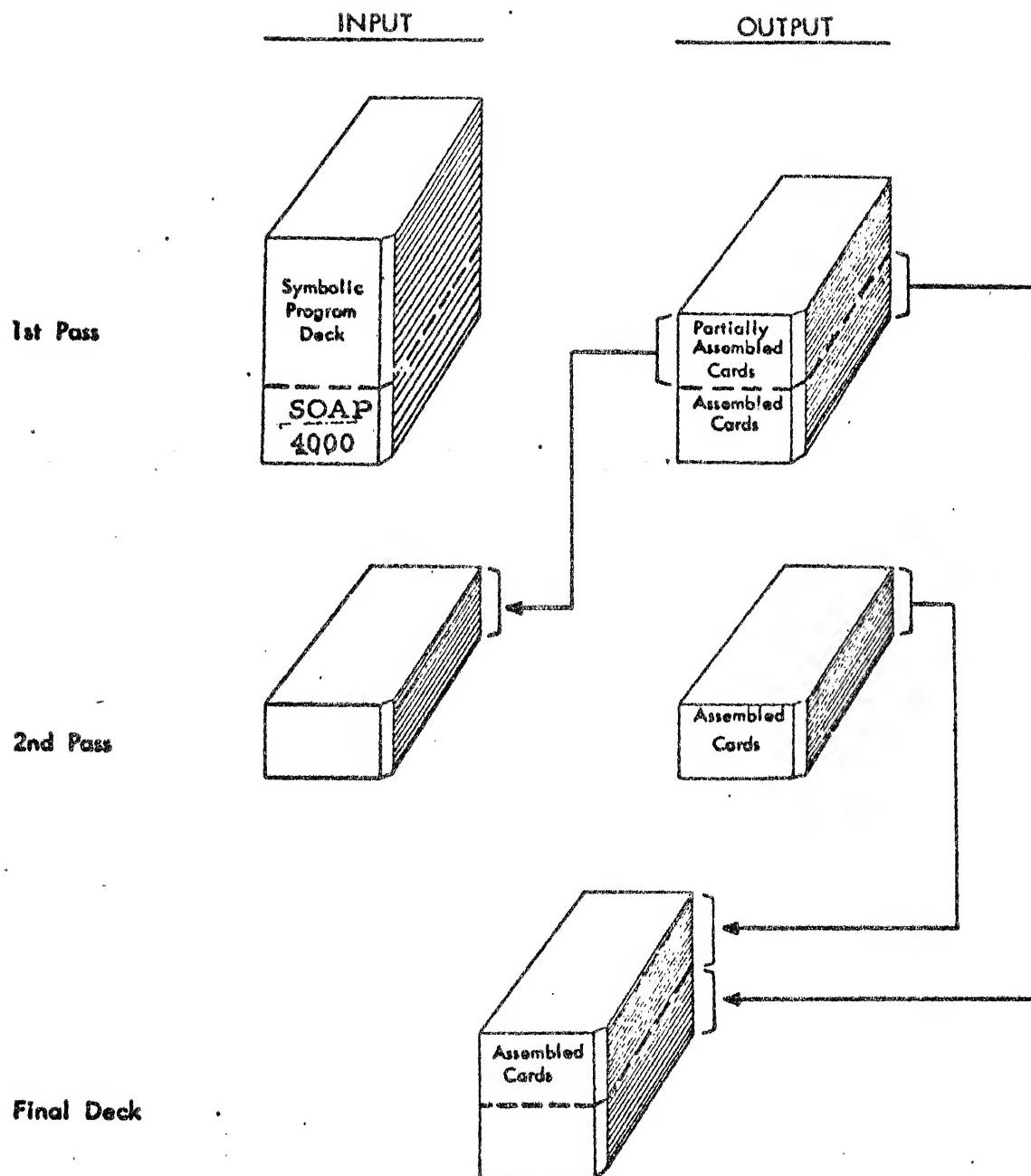
Assembled
Cards

Schematic diagram of card handling during assembly of symbolic program
containing more than 1200 symbols.

Figure 1

Punch Availability Table: PAT

The availability table punch-out occurs in two sections. The first section of the punch out represents the status of the first 2000 locations of the drum by dynamic drum level (00-49). The second section gives a picture of the upper half of the drum by dynamic drum level. The two sections can be placed together side by side to give an overall picture of the status of the drum.

If an availability table is to be reloaded during a multiple pass assembly in order to restore previous availability conditions, the table must be loaded before the 1198th new symbol is encountered.

Multiple Assembly: BOP

Multiple assembly, the assembly of more than one independent program in one pass, is restricted to programs containing no more than 1198 distinct symbols.

Programming Features of SOAP IIA-4000

SOAP IIA-4000 contains all the programming features of SOAP IIA. It will accept regional addresses with FWA>3999 and 9000-9199 as valid IAS addresses.

The pseudo-op PST permits the punching of the contents of the symbol table with the assigned location of each symbol into EQU card format. If the Sign switch is set to minus (-), a punch-out of the contents of the symbol table will occur at the beginning of each pass after the first. This gives a listing of all the symbols used during the previous pass. By setting the Sign switch to (-) and following the input deck with a PST card, punch-out of the symbol table used during each machine pass including the final one will be effected.

SOAP II A-4000 Coding of Special Operation Codes

The SOAP II A-4000 program is capable of recognizing, assembling and correctly optimizing the following positive special op codes:

Table Look Up on Equal	TLE	+63
Read Sorter Reader	RSR	+ 12

8.

and the following negative special op codes:

Alpha to Numeric Conversion	ANC	-65
Numeric to Alpha Conversion	NAC	-20
Read Tape Special	RTS	-05
Set Format	SFM	-19
Special Shift Instruction	SPS	-30
Typewriter Output	TYO	-79
Write Tape Special	WTS	-07
Not Equal Upper	NEU	-42
Equal Low Upper	ELU	-43

SOAP II A-4000 will translate the above negative operation code mnemonics into the proper numeric code, and will automatically make the instruction negative. Therefore, caution must be exercised when attempting to modify an instruction using a Negative Op code.

For example, let -ABC represent any of the above negative operation codes in the instruction (-ABC R0006 NEXT) located in INSTR. It is desired to change the data address of this instruction to R0007. If the constant (+00 0001 0000) were added to the contents of INSTR, the resultant data address would be R0005 and not the desired R0007. The correct procedure is either to add (-00 0001 0000) or to subtract (+00 0001 0000).

Care must also be taken not to alter the sign of an instruction if the instruction would then be interpreted differently by the 650. If during the course of address modification, a Set Format instruction were made positive and executed, the resultant operation would be a Multiply (19). Conversely, if a RAL instruction were made negative, the effective operation would become NAC.

If a negative instruction is to be modified by the contents of an index register, the sign of the instruction need not be considered. The 650 treats all instructions as if they were positive in sign while they are being indexed.

533 Control Panel for SOAP II A-4000

The SOAP II A-4000 control panel is identical with the SOAP II A control panel. For details on how to convert a SOAP II panel to a panel for SOAP IIA-4000 or SOAP II A, see para 11 of bulletin J28-4001.

Memory Allocation

Figure 2 is a "snapshot" of the drum showing the location of the various tables used by the assembly program and the input-output and program blocks.

Symbol Table: 2000 - 3199

The SOAP II A-4000 symbol table occupies 1200 locations. L is computed as follows:

$$\frac{S}{1199} = Q + \frac{R}{1199}$$

$$L_0 = 2000 + R$$

$$2000 \leq L_0 \leq 3198$$

Where S is the double digit representation of the symbol used.

10.

MEMORY ALLOCATION

FIGURE 2

Address	Section
0000 – 0399	Availability Table
0400 – 0599	Optimizing Table
0600 – 1999	PROGRAM
2000 – 3199	SYMBOL TABLE
3200 – 3799	Equivalence Table
3800 – 3849	Pseudo operation entries / Un-used / Region Table
3850 – 3927	Symbolic Op Table / Unused

Type "blank"
1, 2, 3 entries

read: 1951 – 1962
punch: 1977 – 1986
1990 – 1993

Pseudo operation entries 3813
Un-used 3821
Region Table 3849
Unused 3927

Equivalence Table: 3200 - 3799

The assigned address of each symbol is stored in the data address or instruction address part of $(3200 + Q)$ according as $R = 0$ or 1 in the formula

$$\frac{L}{2} = Q + \frac{R}{2}$$

where L is the location containing the symbol in the symbol table.

Availability Table: 0000 - 0399

Let $L = x_1 x_2 x_3 x_4$ $2L = y_1 y_2 y_3 y_4$

Then $A = y_1 + 4 (y_3 \ y_4)$

$P = y_2$

where A is the availability table location whose Pth digit ($0 \rightarrow$ unavailable, $1 \rightarrow$ available) reco   the status of location L. $P = 0, 1, 2, \ldots, 9$, going from left to right.

Example:

$$L = 1238$$
$$2L = 2476$$
$$A = 2 + 4 (76) = 306$$
$$P = 4$$

Conversely, given A and P, one may compute L as follows:

$$\text{Let} \quad \frac{A}{8} = Q + \frac{R}{8}$$

Then $L = 500 R + 50 P + Q$

Example:

$$A = 306, \quad P = 4$$
$$\frac{306}{8} = 38 + \frac{2}{8}$$
$$L = 500(2) + 50 (4) + 38$$
$$= 1238$$

Optimizing Table: 0400 - 0599

Location $(0400 + xx)$ contains the entry for numerical op code xx where $00 \leq xx \leq 99$. Thus the entry for RAL (65) is in 0465.

The 0500-0599 band has been reserved for entries for the minus op-codes. For example, the entry for SFM (-19) is in 0519. Those locations which have no corresponding negative op-code have been filled with 99 9999 9999, to allow for future negative op-codes.

Pseudo Operation Entries: 3800 - 3813

3800	BOP
3801	BLR
3802	BLA
3803	REG
3804	EQU
3805	SYN
3806	ALF
3807	PAT
3808	HED
3809	REL
3810	REQ
3811	RBR
3812	PST
3813	RDR

Region Table: 3821 - 3849

The instruction address part of location (3760 xx) contains the first word address (FWA) of the region having xx as the numerical representation of its alphabetic designation. For example, the origin of region F is in 3826.

Symbolic OP Table: 3850 - 3997 except 3898, 3899, 3948, 3949

The symbolic op table contains all the pseudo operation codes, the regular 650 operation codes and the following 650 special operation codes:

Alpha to Numeric Conversion	ANC
Numeric to Alpha Conversion	NAC
Read Tape Special	RTS
Set Format	SFM
Special Shift Instruction	SPS
Table Look Up on Equal	TLE
Typewriter Output	TYO
Write Tape Special	WTS
Read Sorter Reader	RSR
Not Equal Upper	NEU
Equal Low Upper	ELU

There is room for additional entries in the table as these become necessary by the creation of new operation codes.

Type Entries: 1990 - 1993 and 1185 - 1188

The first instruction for types "blank", 1, 2, and 3 is in location 1990, 1991, 1992, and 1993 when SOAP II A 4000 is in a normal mode of assembly. The entries are in locations 1185, 1186, 1187 and 1188 respectively when the program is in the partial mode of assembly.

SOAP 42

This program has been written in order to assist the user of a 650 model 4, who now possesses a basic machine, to assemble and desk check programs written for, and possibly in advance of delivery of the larger machine. It is essentially the same program as the field test version of SOAP 4000, but whose enlarged tables have forced a slight penalty in assembly time when a great many different symbols are used.

In addition, some of the features to be announced upon general release of SOAP 4000 that are not present in the field test version have been included in SOAP 42. These new pseudo operations are:

SEQ
RDR
DLA
LIT

SEQ provides the ability, once having reserved a certain area, to allow the assembly program automatically to provide sequential locations from any initialized address in any or all of the three fields, L, D, I. For example: a table may be stored without any location addresses provided that SEQ precede the table and initialize the location field. D and I would be blank in this case on the SEQ card.

A drum-stored, core-executed subroutine may be given drum addresses for loading purposes and core D and/or I address for execution, and be omitted entirely on the coding sheet provided that the initial locations appear in the appropriate fields on the SEQ card that preceded it.

Any non-blanks that appear in the coding will be handled correctly and the sequential location at that level will be skipped.

The effect of an SEQ operation is cancelled by another SEQ which, if blank, in L, D, and I permits resumption of normal optimizing. The sequential address assignment which, as indicated above, does not do any reserving, may proceed in the negative direction if a minus sign is punched in the sign position of the SEQ card. Normal optimizing continues in any field not initialized.

RDR The lengthy availability tables, although ultimately compressed, forced the writing of this pseudo-op which reserves the entire drum at high speed. After using this, one must make space available by BLA and/or DLA.

DLA. This code stands for dynamic level available, and will make all locations between the indicated limits on the same dynamic level available. Thus, one can make available those locations restricted to TLU of a very large table by using only two cards.

The compressed code of the availability table precludes its display when commanded by PAT. Instead the display will appear as a series of DLA cards following the PAT. These can be reloaded at any time after removing the PAT card, to reinstate a previous availability table. The PAT operation will generate a free RDR in order to permit the reinstatement of an earlier availability.

When they appear as input immediately following a PAT, DLA's will be bypassed, and will not appear again as output, but the present availability table will appear in its stead. If PAT generates no DLA cards, then no space is available.

LIT . It will no longer be necessary to separate numeric constants from the instructions that first use them. They may hereafter be written in the REMARKS field as a 1-10 digit number, even in internal floating point notation, and they will be assigned an optimal location provided that a previously illegal type of symbol is used in the D address position. If this is the first occurence of this symbol in the program, then the contents of the REMARKS field will be assigned to and will enter an optimal location and can thereafter be called or modified at the same symbolic address. The new class of literal symbols is defined as follows:

> bb XXX if the constant is positive
> b M XXX if the constant is negative

where XXX can be any character acceptable to the processing machine. Literal symbols used in any other field will have the same effect as any other legal symbol.

LIT will appear as the OP code in the assembled output immediately following the instruction which engendered it, and it will contain the constant desired. If less than 10 digits are written in the remarks field, they will be right-justified before being punched. If the remarks field is left blank, zeroes will be loaded into this location.

In addition to the new pseudo operations, an optimizing correction has been made in the case of indexed D addresses in core.

Eleven new regions have been added for the user with the special character device group II.

SOAP 42 locations do not necessarily correspond to their synonyms in other SOAP programs.

```
 1   1                          SOAP 4000
 2   1
 3   1             SYMBOLIC OPTIMAL ASSEMBLY PROG
 4   1
 5   1                         FOR   THE
 6   1
 7   1                      IBM 650 MODEL 4
 8   1
 9   1                   DATA PROCESSING SYSTEM
10   1
11   1
12   0        5CD     4007    0006
13   0        BLR     0000    0040        AVAIL
14   0        BLR     0050    0090         TABLE
15   0        BLR     0100    0140          AREAS
16   0        BLR     0150    0190
17   0        BLR     0200    0240
18   0        BLR     0250    0290
19   0        BLR     0300    0340
20   0        BLR     0350    0390
21   0        BLR     0400    0440
22   0        BLR     0450    0490
23   0        REG     B0041   0042        SUBR2
24   0        REG     =0043   0044         SUB 11
25   0        REG     #0045   0046        PUNCH SUBR
26   0        REG     /0091   0093
27   0        BLR     0191    0191
28   0        REG     .0500   0509        SUB 11
29   0        REG     (0550   0560        SUB 11
30   0        EQU     11XXX   (0001
31   0        EQU     00101   (0002
32   0        EQU     100IX   (0003
33   0        EQU     1DXXX   (0005
34   0        EQU     10DXX   (0006
35   0        EQU     H1  4   (0010
36   0        REG     )0600   0612        INDEX TABL
37   0        REG     N0700   0752        OPTIM TABL
38   0        BLR     0800    0819        PSEUDO ENT
39   0        REG     H0902   0904        TYPE 2
40   0        REG     M0905   0907
41   0        REG     V0910   0911        EQU SYN
42   0        REG     X0913   0914        TYPE 0
43   0        REG     Y0915   0916        EQU SYN
44   0        REG     Z0917   0919
45   0        REG     W0920   0921
46   0        BLR     0923    0968        MULTIPLE R
46   0        REG     D0923   0923        PROC L
47   0        BLA     0930    0930
48   0        BLA     0964    0964
49   0        REG     +0977   0986        5/CD OUTPT
50   0        EQU     85THP   +0010
51   0        BLR     1000    1000        ENTRY
52   0        BLR     1002    1002         LITERAL
53   0        BLR     1005    1005          SYMBOLS
54   0        BLR     1017    1017
55   0        BLR     1025    1025
56   0        BLR     1041    1041
57   0        BLR     1055    1055
58   0        REG     O1185   1199        MULTIPASS
59   0        REG     R1200   1207        SUB 5
60   0        REG     U1250   1259        SUB 13
61   0        BLR     1292    1292
62   0        REG     11300   1307        SUB 13
63   0        BLR     1563    1570        TYPE2
64   0        BLA     1565    1565
65   0        BLA     1569    1569
66   0        SYN     o       1578
67   0        SYN     )       1579
68   0        SYN     +       1580
69   0        SYN     $       1588
70   0        SYN     *       1589
71   0        SYN     -       1590
72   0        SYN     /       1591
73   0        SYN     o       1598
74   0        SYN     (       1599
75   0        SYN     =       1608
76   0        SYN     '       1609
77   0        BLR     1621    1649        REG TABLE
78   0        EQU     PCHEX   1630
79   0        EQU     ZZZZ1   1640        TEMPORARY
80   0        EQU     ZZZZ2   1641        STORAGE
81   0        EQU     TAG     ZZZZ1
82   0        REG     C1650   1786        SYMBLIC OP
83   0        BLR     1800    1800        MANUAL PST
84   0        BLR     1900    1900        MANUAL PAT
85   0        SYN     80XXL   1912
86   0        SYN     80XXD   1928
87   0        REG     -1937   1941
88   0        SYN     80XXI   1944
89   0        SYN     READC   1950
90   0        BLR     1951    1967        17WD BUFFR
```

Line	F	Label	Op	A	B	Comment	Loc	OC	D	I	Note
91	0		EQU	XXXX1	1961						
92	0		EQU	XXXX2	1962						
93	0		EQU	W 2	XXXX2						
94	0		REG	P1977	1986	PUNCH AREA					
95	0		REG	T1990	1993	TYPE					
96	0		BLR	1998	1999						
97	0		REG	S2000	3099	SYMBOL TAB					
98	0		REG	E3200	3749	EQUIV TABL					
99	0		REG	A0510	0527						
100	0		REG	$0528	0545						
101	0		HED	3							
102	0	SUBR3	STD	EXITX	DOWNR	STOR EXIT	0650	24	0653	0656	
103	0	DOWNR	RAU	1954			0656	60	1954	0659	
104	0		SIA	XXXX1			0659	23	1961	0564	
105	0		RAL	8001		IS OP BLNK	0564	65	8001	0571	
106	0		NZE		ILLOP		0571	45	0574	0575	
107	0		SLT	0002			0574	35	0002	0581	
108	0		NZU		NUM		0581	44	0585	0586	
109	0		RAU	8001			0585	60	8001	0141	
110	0		TLU	C0001		SEARCH	0141	84	1650	0655	NOTE
111	0		ALO	1	8002	SYMBOLIC	0655	15	0658	8002	
112	0	8002	RAU	9998	NXT	OP TABLE	8002	60	9998	0753	
113	0	NXT	SUP	XXXX1			0753	11	1961	0565	
114	0		SRT	0004		IS SYMB OP	0565	30	0004	0625	
115	0		NZU	ILLOP		LEGAL	0625	44	0575	0580	
116	0		SLT	0001			0580	35	0001	0587	
117	0		NZU		NORM		0587	44	0241	0142	
118	0		SUP	4IXXX		TEST PSEU	0241	11	0094	0049	
119	0		NZU	RPQ			0049	44	0853	0654	
120	0		SLT	0003	8003	PSEUDO OP	0654	35	0003	8003	
121	1										
122	0	NORM	STL	P0007		STORE NUM	0142	20	1983	0636	
123	0		SLO	8001		OP AND GET	0636	16	8001	0143	
124	0		TLU	N0001		OPTIMIZING	0143	84	0700	0755	
125	0		ALO	5	8002	DATA	0755	15	0758	8002	
126	0	8002	LDD	9998	NXTIN		8002	69	9998	0651	
127	0	NXTIN	STD	OPTIM	EXITX		0651	24	0754	0653	NOTE
128	1										
129	0	NUM	RAU	8001		OP CODE IN	0586	60	8001	0193	
130	0		LDD		COMPR	DBL DIGIT	0193	49	0096	0099	
131	0		RAU	P0007			0096	60	1983	0637	
132	0		SRT	0002	NORM	TO 1 DIGIT	0637	30	0002	0142	
133	1										
134	0	RPQ	SLT	0001		NEGATIV OP	0853	35	0001	0759	
135	0		STL	P0007		ADD CNTROL	0759	20	1983	0686	
136	0		SLO	8002		8 TO PCH	0686	16	8002	0095	
137	0		SLT	0004		MINUS AND	0095	35	0004	0855	
138	0		ALO	P0010		GET PROPER	0855	15	1986	0291	
139	0		SLT	0001		ENTRY IN	0291	35	0001	0047	
140	0		SLO	8002		OPTIMIZING	0047	16	8002	1105	
141	0		ALO	H8XXX		TABLE	1105	15	0858	0563	
142	0		SRT	0001	AUP		0563	30	0001	0569	
143	1										
144	0	ILLOP	RAL	P0010		ILLEGAL	0575	65	1986	0341	
145	0		ALO	8IXXX	AUP	OP PCH	0341	15	0144	0569	
146	0	AUP	AUP	2		BLANK OP	0569	10	0572	0577	
147	0		STL	P0010	8003		0577	20	1986	8003	
148	0	8003	LDD	N0000	NXTIN		8003	69	0699	0651	
149	1										
150	0	1	RAU	0000	NXT	CONSTANTS	0658	60	0000	0753	
151	0	2	LDD	N0004	NXTIN		0572	69	0703	0651	
152	0	5	LDD	0000	NXTIN		0758	69	0000	0651	
153	0	OPTIM	01	0000	OPTIM		0754	01	0000	0754	
154	0		HED								
155	1										
156	1			SUB 4 WHAT IS ADDRESS							
157	1										
158	0		HED	4							
159	0	SUBR4	BOV				0850	47	1003	1003	
160	0		STD	EXITZ			1003	24	0756	0859	
161	0		STU	XXXX1		STORE ADDR	0859	21	1961	0614	
162	0		SRT	0008		IS C5	0614	30	0008	0583	
163	0		STU	XXXX2		SAVE C5	0583	21	1962	0615	
164	0		RAU	8002		ARE LOW 4	0615	60	8002	0573	
165	0		AUP	90XXX	LOOP		0573	10	0576	0631	
166	0	LOOP	AUP	H1			0631	10	0559	0613	
167	0		BOV		SYM		0613	47	0566	0568	
168	0		SLT	0002			0566	35	0002	0623	
169	0		NZU	LOOP			0623	44	0631	0578	
170	0		RAL	XXXX2		LOW 4 NUM	0578	65	1962	0567	
171	0		NZE		EXITZ		0567	45	0570	0756	
172	0		SLO	90XXX		IS C5	0570	16	0576	0681	
173	0		BMI		SYM	ALPHABETIC	0681	46	0584	0568	
174	0		RAL	1IXXX		REGIONAL	0584	65	0550	1155	
175	0		AUP	XXXX1	AEX		1155	10	1961	0665	
176	0	AEX	ALO	EXITZ			0665	15	0756	0561	
177	0		SLO	8002	8001		0561	16	8002	8001	
178	0	SYM	RAU	XXXX1		HED SYMBOL	0568	60	1961	0765	
179	0		LDD		SUB15		0765	69	0618	0621	
180	0		STU	HSYMB			0618	21	0622	0675	
181	0		SRT	0008			0675	30	0008	0243	

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182	0		NZU		LIT		0243	44	0097	0048
183	0		RAU	8001			0097	60	8001	1053
184	0		ALO	21XXX	AEX		1053	15	0856	0665
185	0	LIT	RAU	8001			0048	60	8001	1355
186	0		ALO	100IX	AEX		1355	15	0552	0665
187	0	HSYMB	01	0000	HSYMB	ERASEABLE	0622	01	0000	0622
188	0		HED							
189	1									
190	1			SUB 15 HEADING ROUTINE						
191	1									
192	0		HED	H						
193	0	SUB15	STD	EXITY		SAVE EXIT	0621	24	0624	0627
194	0		LDD	8003		IS C1	0627	69	8003	0634
195	0		SLT	0008		BLANK	0634	35	0008	1103
196	0		NZU	DH			1103	44	0657	0908
197	0		RAU	8001		HEAD	0908	60	8001	0865
198	0		AUP	0000H	EXITY		0865	10	0668	0624
199	0	DH	RAU	8001	EXITY	DONT HEAD	0657	60	8001	0624
200	0		HED							
201	1									
202	1			SUB 5 TEST ABSOLUTE ADDRESS						
203	1									
204	0		HED	5						
205	0	SUBR5	STD	EXITZ		STORE EXIT	0900	24	0756	0909
206	0		STL	XXXX1		STORE A	0909	20	1961	0664
207	0		SLT	0004			0664	35	0004	0775
208	0		SLO	8002			0775	16	8002	0633
209	0		TLU	R0001		TLU	0633	84	1200	1405
210	0		ALO	GET	8002	RANGE	1405	15	1008	8002
211	0	8002	RAU	9972	X	TABLE	8002	60	9972	0677
212	0	X	SLT	0006			0677	35	0006	0391
213	0		SRT	0006			0391	30	0006	1455
214	0		AUP	EXITZ			1455	10	0756	0661
215	0		ALO	XXXX1			0661	15	1961	1015
216	0		SUP	8003	8001		1015	11	8003	8001
217	0	GET	RAU	0000	X		1008	60	0000	0677
218	0	R0001	00	3999	0000	RANGE	1200	00	3999	0000
219	0	R0002	00	7999	0003	TABLE	1201	00	7999	0003
220	0	R0003	00	8003	0001		1202	00	8003	0001
221	0	R0004	00	8004	0979		1203	00	8004	0979
222	0	R0005	00	8007	0001		1204	00	8007	0001
223	0	R0006	00	8999	0979		1205	00	8999	0979
224	0	R0007	00	9199	0002		1206	00	9199	0002
225	0	R0008	99	9999	0003		1207	99	9999	0003
226	1									
227	0	EXITZ	01	0000	EXITZ		0756	01	0000	0756
228	0		HED							
229	1									
230	1									
231	1			SUB 6 SYMBOL TEST ROUTINE						
232	1									
233	0		HED	6						
234	0	SUBR6	STD	EXITZ		STORE EXIT	1050	24	0756	1009
235	0		STU	S		STORE SYMB	1009	21	0764	0617
236	0		LDD	SWOF		SET SWITCH	0617	69	0620	0673
237	0		STD	SW		OFF	0673	24	0626	0579
238	0		RAL	8003		SCRAMBLE	0579	65	8003	0687
239	0		DIV	RF		SYMBOL	0687	14	0590	0851	NOTE
240	0		RAL	8003		GIVING LO	0851	65	8003	1059
241	0		SLT	0004			1059	35	0004	0619
242	0		ALO	L1	SLI		0619	15	0672	0777
243	0	SLI	STL	LI	8001	INIT LI	0777	20	0781	8001
244	0	8001	RAL	9990	A	IS CONT OF	8001	65	9990	0145
245	0	A	NZE		UND	LI ZERO	0145	45	0098	0149
246	0		SLO	S		IS CONT OF	0098	16	0764	0669
247	0		NZE	SW	DEF	LI SYMB	0669	45	0626	0773
248	0	SW	RAL	LI	OFF	IS LI	0626	65	0781	0635
249	0	OFF	SLO	LMAX		MAXIMUM	0635	16	0588	0293
250	0		NZE		MAX		0293	45	0146	0147
251	0		ALO	LMP1	SLI	STEP LI	0146	15	0199	0777
252	0	ON	ALO	1DXXX	SLI	STEP LI	1100	15	0554	0777
253	0	MAX	LDD	SWON		SET	0147	69	1150	1153
254	0		STD	SW		SWITCH ON	1153	24	0626	0629
255	0		RAL	L1	SLI	ZERO LI	0629	65	0672	0777
256	1										NOTE
257	0	DEF	RAL	LI		DEFINED	0773	65	0781	0685	――T+
258	0		LDD	ASU	SUBR8	GET	0685	69	0638	0441
259	0	ASU	AUP	S	EXITZ	EQUIVALENT	0638	10	0764	0756
260	1									
261	0	UND	RAL	EXITZ		IF SYMBOL	0149	65	0756	0761
262	0		BD5	L		IS UNDEFND	0761	95	0864	0616
263	0		BD6	D	I	TEST IF IT	0616	96	0769	0671
264	0	L	LDD	1960		HAS BEEN	0864	69	1960	0663
265	0		BD9		ALO1	PREVIOUSLY	0663	99	0667	0768
266	0		LDD	1957	STEQU	ESTABLSHED	0667	69	1957	0660
267	0	D	LDD	1960		AND IF SO	0769	69	1960	0763
268	0		BD8		ALO1	STORE IT	0763	98	0666	0768
269	0		LDD	1958	STEQU	AS EQUIV	0666	69	1958	0660
270	0	I	LDD	1960			0671	69	1960	0863
271	0		BD7		ALO1		0863	97	0766	0768
272	0		LDD	1959	STEQU	IF STILL	0766	69	1959	0660

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273	0	STEQU	STD	EQUIV	RALLI	UNDEFINED	0660	24	1013	0866	
274	0	ALO1	ALO	1IXXX		THEN STEP	0768	15	0550	1505	
275	0		STL	EXITZ		EXIT	1505	20	0756	1109	
276	0		RAL	SYMCT			1109	65	0562	0767	
277	0		SLO	1IXXX		ZERO IF	0767	16	0550	1555	
278	0		STL	SYMCT		1000TH	1555	20	0562	1065	
279	0		NZE	RALLI	FULL	SYMBOL	1065	45	0866	0869	
280	1										NOTE
281	0	RALLI	RAL	LI			0866	65	0781	0785	
282	0		SLO	LX			0785	16	0688	0343	
283	0		STL	LSYMB	ASU		0343	20	0197	0638	
284	1										
285	0	FULL	LDD	SET5+		SUSPEND	0869	69	0772	0825	
286	0		STD	PCHWD		5/CD PUNCH	0825	24	0628	0831	
287	0		LDD	4D888		1100 SYMBS	0831	69	0684	0787	
288	0		STD	TRANS		SET CONTRL	0787	24	0640	0393	
289	0		LDD	INTO1		TO ENTER	0393	69	0196	0249	
290	0		STD	INTOX		PASS	0249	24	0652	1605	
291	0		LDD	P0009		ROUTINE	1605	69	1985	0788	
292	0		STD	NHOLD		ON NEXT	0788	24	0491	0194	NOTE
293	0		LDD	0000H		CARD READ	0194	69	0668	0771	
294	0		STD	HHOLD	RALLI		0771	24	0674	0866	
295	1										
296	0	SWOF	RAL	LI	OFF	CONSTANTS	0620	65	0781	0635	
297	0	SWON	RAL	LI	ON		1150	65	0781	1100	
298	0	RF	00	0000	1099		0590	00	0000	1099	
299	0	LX	RAL	0000	A		0688	65	0000	0145	
300	0	L1	RAL	50001	A		0672	65	2000	0145	
301	0	LMAX	RAL	S1100	A		0588	65	3099	0145	
302	0	LMP1	RAL	S1101	A		0199	65	3100	0145	
303	0	4D888	04	0000	8880		0684	04	0000	8880	
304	0	INTO1	ALO	TORGP	FIRST		0196	15	0299	1353	
305	0	S	01	0000	S	ERASEABLE	0764	01	0000	0764	
306	0	SW	01	0000	SW		0626	01	0000	0626	
307	0	LO	01	0000	LO		1350	01	0000	1350	
308	0	LI	01	0000	LI		0781	01	0000	0781	
309	0	LSYMB	01	0000	LSYMB		0197	01	0000	0197	
310	0	SYMCT	01	0000	SYMCT		0562	01	0000	0562	
311	0	NHOLD	01	0000	NHOLD		0491	01	0000	0491	
312	0	HHOLD	01	0000	HHOLD		0674	01	0000	0674	
313	0	TRANS	01	0000	TRANS		0640	01	0000	0640	
314	0		HED								
315	1										
316	1			SUB 7 STORE SYMBOL AND EQUIV								
317	1										
318	0		HED	7							
319	0	SUBR7	STD	EXITZ		STORE EXIT	1400	24	0756	1159	
320	0		LDD	SS			1159	69	0662	1115	
321	0		SDA	XXXX2	8001	STORE	1115	22	1962	8001	
322	0	8001	STU	9988	A	SYMBOL	8001	21	9988	0591	
323	0	A	SUP	8001			0591	11	8001	0247	
324	0		STL	XXXX1		SAVE E	0247	20	1961	0964	
325	0		SRT	0004			0964	30	0004	0875	
326	0		DIV	2IXXX		CALCULATE	0875	14	0856	0867	
327	0		SLT	0004		LOCATION	0867	35	0004	0827	
328	0		ALO	C1		OF	0827	15	0630	0835	
329	0		LDD	C2		E	0835	69	0838	0641	
330	0		SDA	SEL		AND	0641	22	0195	0148	
331	0		LDD	C3		STORE	0148	69	0901	0854	
332	0		SDA	SER			0854	22	0757	0760	
333	0		STL	OBEE			0760	20	1165	0868	
334	0		SLO	8001			0868	16	8001	0975	
335	0		ALO	XXXX1	OBEE		0975	15	1961	1165	
336	0	OBEE	LDD	9986	B		1165	69	9986	0589	
337	0	B	NZU	SER			0589	44	0757	0244	
338	0		SLT	0004	SEL		0244	35	0004	0195	
339	0	SS	STU	9987	A	CONSTANTS	0662	21	9987	0591	
340	0	C1	LDD	2200	B		0630	69	2200	0589	
341	0	C2	SDA	9985	EXITZ		0838	22	9985	0756	
342	0	C3	SIA	9984	EXITZ		0901	23	9984	0756	
343	0	OBEE	01	0000	OBEE	ERASEABLE	1165	01	0000	1165	
344	0	SEL	01	0000	SEL		0195	01	0000	0195	
345	0	SER	01	0000	SER		0757	01	0000	0757	
346	0		HED								
347	1										
348	1			SUB 8 GIVEN SYM LOC GET EQUIV								
349	1										
350	0		HED	8							
351	0	SUBR8	STD	EXIT		STORE EXIT	0441	24	0294	0297	
352	0		LDD	8003			0297	69	8003	1004	
353	0		SDA	LSYMB		STORE L	1004	22	0197	1450	
354	0		RAL	8001			1450	65	8001	0857	
355	0		DIV	2DXXX			0857	14	0860	0821	
356	0		SLT	0004			0821	35	0004	0881	
357	0		ALO	B1	8002		0881	15	0784	8002	
358	0	8002	LDD	9975	TR		8002	69	9975	0678	
359	0	TR	NZU		LH		0678	44	1031	0582	
360	0		RAM	8001	LR	GET E RH	1031	67	8001	0837	
361	0	LH	RAM	8001		GET E LH	0582	67	8001	0639	
362	0		SRT	0004	LR		0639	30	0004	0837	
363	0	LR	LDD	8003			0837	69	8003	0344	

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Line		Label	Op	A	B	Comment					
364	0		SIA	EQUIV			0344	23	1013	1016	
365	0		RAL	LSYMB	EXIT		1016	65	0197	0294	
366	1										
367	0	E1	LDD	2200	TR		0784	69	2200	0678	
368	0	EXIT	01	0000	EXIT	ERASEABLE	0294	01	0000	0294	
369	0	EQUIV	01	0000	EQUIV		1013	01	0000	1013	
370	0		HED								
371	1										
372	1			SUB 9	CALCULATE REG ADDRESS						
373	0		HED	9							
374	0	SUBR9	STL	EXITZ			1500	20	0756	1209	
375	0		LDD	MASK			1209	69	0762	1215	
376	0	.	SDA	ZZZZ1			1215	22	1640	0443	
377	0		LDD	ALOC	STOR		0443	69	0246	0349	NOTE
378	0	STOR	STD	XXXX1			0349	24	1961	1014	
379	0		SRT	0008			1014	30	0008	0683	
380	0		RAL	8003		TEST CHAR	0683	65	8003	0691	
381	0		SLO	90XXX		REGION	0691	16	0576	1081	
382	0		BMI		0801		1081	46	0834	0801	
383	0		SLT	0004	XXXX1		0834	35	0004	1961	
384	3	XXXX1	ALO	C	8002		1961	15	1064	8002	
385	0	8002	RAL	9991	NEX		8002	65	9991	0245	
386	0	NEX	BDO	ILL		IS REG CHA	0245	90	0399	1550	
387	0		SLO	H9XXX	ZZZZ1	DEFINED	1550	16	1403	1640	
388	3	ZZZZ1	ALO	1959	ALL		1640	15	1959	1063	
389	0	ALL	SLO	1IXXX			1063	16	0550	1805	NOTE
390	0		BMI	ILL	EXITZ		1805	46	0399	0756	
391	0	ILL	RAL	EXITZ		UNDEFINED	0399	65	0756	0861	
392	0		ALO	1IXXX	8002	OR ILLEGAL	0861	15	0550	8002	
393	1										
394	0	MASK	ALO	9999	ALL		0762	15	9999	1063	
395	0	ALOC	ALO	C	8002		0246	15	1064	8002	
396	0	C	RAL	1650	NEX		1064	65	1650	0245	
397	0		HED								
398	1			SUB 10 SET CC 8 AND PUNCH							
399	1										
400	0	SUB10	STU	CONGO			1600	21	1054	1007	
401	0		RAU	P0010			1007	60	1986	0791	
402	0		AUP	84TH			0791	10	0394	0449	
403	0		LDD	CONGO	H8SUB		0449	69	1054	1057	
404	1										
405	0	84TH	00	0800	0000	CONSTANT	0394	00	0800	0000	
406	1										
407	0	H8SUB	STD	8EXIT			1057	24	1010	1113	
408	0		SLT	0001			1113	35	0001	0969	
409	0		SRT	0001			0969	30	0001	1075	
410	0		AUP	H8XXX			1075	10	0858	1163	
411	0		STU	P0010			1163	21	1986	0689	
412	0		PCH	P0001			0689	71	1977	0877	
413	0		RAU	TYP3A	8EXIT		0877	60	0680	1010	
414	1										
415	1										
416	1			SUB 11 FIND AND RESERVE BEST							
417	1										
418	0		HED	0							
419	0	SUB11	AUP	DRUMT		TEST DRUM	1850	10	1453	1107	
420	0		NZU	SEX		TAG	1107	44	1011	0862	
421	0		STL	EXIT		IS ADDR L	0862	20	1067	0670	
422	0		BD6	DI			0670	96	0823	1125	
423	0		RAL	SEQLL			1125	65	0778	0783	
424	0		BMI		D0001		0783	46	0786	0923	
425	0		RAL	8003	SSW	L	0786	65	8003	0841	
426	0	DI	LDD	F		D OR I	0823	69	0676	0679	
427	0		SDA	XXXX1	SUB13	FIND OPTIM	0679	22	1961	1114	
428	1										
429	0	SSW	LDD		GDA11	GET TABLE	0841	69	0444	0347	
430	0		SRT	0005	TA	STRT	0444	30	0005	1157	
431	0	TA	ALO	A1P1	8002	SRCH TABL	1157	15	1060	8002	
432	0	8002	AUP	0040	=0001	IS A LOCAT	8002	10	0040	0043	
433	0	=0001	NZU		ADD	AVAILABLE	0043	44	0397	0198	
434	0		BMI		YES		0397	46	3100	1001	
435	0		SUP	8001	SW	NO STRTLU	3100	11	8001	1357	
436	0	ADD	ALO	1DXXX	8002		0198	15	0554	8002	
437	1										
438	3	SW	STL	AO	SWIN	MULTIPLE	1357	20	1061	1164	
439	3	SW	SLO	AMAX	SWOF	EXIT	1357	16	1110	1265	
440	3	SW	SLO	AO	SWON		1357	16	1061	1315	
441	1										
442	0	SWIN	LDD	OFF2	STSW	GET TLU ST	1164	69	1117	0770	
443	1										
444	0	SWOF	NZE		MAX	TEST END	1265	45	1018	1019	
445	0		ALO	AMP1	SAI	OF TABLE	1018	15	0871	1175	
446	1										
447	0	SWON	NZE		FULL	IS DRUM	1315	45	1068	1069	
448	0		ALO	8001		FULL	1068	15	8001	1225	
449	0		ALO	1ODXX	SAI		1225	15	0555	1175	
450	1										
451	0	SAI	LDD	1IXXX	8002	TLU AVAIL	1175	69	0550	8002	
452	0	8002	TLU	0040	=0002	TABLE	8002	84	0040	0044	
453	0	=0002	SLO	A1	TA		0044	16	0447	1157	
454	1										

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#		Label	Op	A	B	Comment	N1	N2	N3	N4
455	0	MAX	RAL	A1		TBL END−60	1019	65	0447	1051
456	0		LDD	ON		TEST FULL	1051	69	1104	1407
457	0		STD	SW	SAI		1407	24	1357	1175
458	1									
459	0	STSW	STD	SW	8001		0770	24	1357	8001
460	1									
461	0	FULL	HLT	0222		DRUM PACKD	1069	01	0222	0873
462	0		RAL	EXIT		SET DRUM	0873	65	1067	0971
463	0		LDD	1IXXX		TAG TO 1	0971	69	0550	1503
464	0		STD	DRUMT	SEX		1503	24	1453	1011
465	0	SEX	ALO	8001	8002	K+1 EXIT	1011	15	8001	8002
466	1									
467	0	YES	LDD	ST		RESERVE	1001	69	1154	1457
468	0		SDA	ERAS		LOCATION	1457	22	1111	1214
469	0		RAU	8003		FOUND	1214	60	8003	1021
470	0		TLU	(0001			1021	84	0550	1855
471	0		ALO	FIXAV	8002		1855	15	1058	8002
472	0	8002	SUP	(0011	SCA		8002	11	0560	1365
473	0	SCA	BMI		ERAS		1365	46	1118	1111
474	0		AUP	8001			1118	10	8001	1275
475	0		SLO	1DXXX	8002		1275	16	0554	8002
476	0	ERAS	STU	0040	CA		1111	21	0040	0493
477	0	CA	SLO	STMPY		CALCULATE	0493	16	0296	1101
478	0		SDA	SAU2		LOCATION	1101	22	1905	1108
479	0		RSL	ST		FOUND	1108	66	1154	1309
480	0		ALO	ERAS			1309	15	1111	1415
481	0		SLT	0004			1415	35	0004	1325
482	0		SLO	8002			1325	16	8002	0833
483	0		SLT	0005			0833	35	0005	0295
484	0		TLU	.0001			0295	84	0500	3105
485	0		STD	RCALL			3105	24	1158	1161
486	0		AUP	8002			1161	10	8002	1119
487	0		STU	DLA		NOTE	1119	21	0774	1027
488	0		ALO	SXAVL	8002		1027	15	0780	8002
489	0	8002	RAL	.0010	ASCA		8002	65	0509	1213
490	0	ASCA	SLO	RCALL			1213	16	1158	1263
491	0		SLT	0007			1263	35	0007	0779
492	0		AUP	SAU2			0779	10	1905	1359
493	0		MPY	−50			1359	19	0912	0883
494	0		ALO	DLA			0883	15	0774	0829
495	0		ALO	CNVRT			0829	15	0632	0867
496	0		SRT	0004	EXIT		0887	30	0004	1067
497	1									
498	0	GDA11	STD	RERUN		GIVEN	0347	24	3150	1553
499	0		RAU	8002		DYNAMIC	1553	60	8002	1211
500	0		STD	DYNA		LEVEL−GET	1211	24	1264	1167
501	0		AUP	8001		TABL START	1167	10	8001	0973
502	0		SRT	0001		ADDRESS	0973	30	0001	0879
503	0		RSL	8002			0879	66	8002	0987
504	0		LDD	OFF			0987	69	0690	0593
505	0		STD	SW			0593	24	1357	1160
506	0		AUP	DYNA	RERUN		1160	10	1264	3150
507	1									
508	0	.0001	07	0000	0000	GROUP TABL	0500	07	0000	0000
509	0	.0002	15	0000	0000		0501	15	0000	0000
510	0	.0003	23	0000	0000		0502	23	0000	0000
511	0	.0004	31	0000	0000		0503	31	0000	0000
512	0	.0005	39	0000	0000		0504	39	0000	0000
513	0	.0006	57	0000	0000		0505	57	0000	0000
514	0	.0007	65	0000	0000		0506	65	0000	0000
515	0	.0008	73	0000	0000		0507	73	0000	0000
516	0	.0009	81	0000	0000		0508	81	0000	0000
517	0	.0010	89	0000	0000		0509	89	0000	0000
518	1									
519	0	(0001	00	0000	0001	BAND TABLE	0550	00	0000	0001
520	0	(0002	00	0000	0010		0551	00	0000	0010
521	0	(0003	00	0000	0100		0552	00	0000	0100
522	0	(0004	00	0000	1000		0553	00	0000	1000
523	0	(0005	00	0001	0000		0554	00	0001	0000
524	0	(0006	00	0010	0000		0555	00	0010	0000
525	0	(0007	00	0100	0000		0556	00	0100	0000
526	0	(0008	00	1000	0000		0557	00	1000	0000
527	0	(0009	01	0000	0000		0558	01	0000	0000
528	0	(0010	10	0000	0000		0559	10	0000	0000
529	0	(0011	99	9999	9999		0560	99	9999	9999
530	1									
531	0	F	00	0000	SSW	CONSTANTS	0676	00	0000	0841
532	0	A1P1	AUP	0000	=0001		1060	10	0000	0043
533	0	AO	HLT	0000	AO		1061	01	0000	1061
534	0	AMAX	AUP	0490	=0001		1110	10	0490	0043
535	0	APEX	74	0000	0001		3750	74	0000	0001
536	0	OFF2	SLO	AMAX	SWOF		1117	16	1110	1265
537	0	AMP1	TLU	0500	0044		0871	84	0500	0044
538	0	A1	TLU	0000	=0002		0447	84	0000	0044
539	0	ON	SLO	AO	SWON		1104	16	1061	1315
540	0	SW	HLT	0000	SW		1357	01	0000	1357
541	0	ST	STU	0000	CA		1154	21	0000	0493
542	0	FIXAV	SUP	0000	SCA		1058	11	0000	1365
543	0	STMPY	00	0550	0000		0296	00	0550	0000
544	0	SAU2	HLT	0000	SAU2		1905	01	0000	1905
545	0	RCALL	HLT	0000	RCALL		1158	01	0000	1158

546	0	DLA	HLT	0000	DLA		0774	01	0000	0774
547	0	-50	-	00	0000	0050	0912	- 00	0000	0050
548	0	CNVRT	00	3450	0000		0632	00	3450	0000
549	0	RERUN	HLT	0000	RERUN		3150	01	0000	3150
550	0	DYNA	HLT	0000	DYNA		1264	01	0000	1264
551	0	OFF	STL	AO	SWIN		0690	20	1061	1164
552	0	SXAVL	RAL	0000	ASCA		0780	65	0000	1213
553	0		HED							
554	1									
555	1			SUB 12 SET BLANK L 8						
556	1									
557	0	SUB12	ALO	P0010			3800	15	1986	0891
558	0		ALO	87NTH			0891	15	0494	0499
559	0		STL	P0010	8003		0499	20	1986	8003
560	1									
561	1			SUB 13 CAL OPTIMUM DYNAMIC ADR						
562	1									
563	0		HED	Y						
564	0	SUB13	STD	EXITZ		STORE EXIT	1114	24	0756	1409
565	0		BD5		I	D OR I	1409	95	1012	1314
566	0		BD6	RAM		+ '+U	1012	96	1465	1217
567	0		RAL	1954		TEST CORE	1217	65	1954	1459
568	0		SRT	0002		D ADDR	1459	30	0002	1515
569	0		RAU	8002		TAGGED	1515	60	8002	1023
570	0		SRT	0002			1023	30	0002	1029
571	0		SUP	8003			1029	11	8003	1037
572	0		NZE		RAM		1037	45	0790	1465
573	0		RAL	OPREG		SET OPREG	0790	65	0643	0497
574	0		ALO	1IXXX		TO N + 1	0497	15	0550	3155
575	0		STL	OPREG	RAM		3155	20	0643	1465
576	0	RAM	RAM	OPTIM		CLEAR OP	1465	67	0754	1509
577	0		SLT	0002		CODE	1509	35	0002	1565
578	0		SUP	8003			1565	11	8003	1073
579	0		SLT	0001			1073	35	0001	1079
580	0		SLO	8002			1079	16	8002	1087
581	0		SLT	0001			1087	35	0001	0693
582	0		ALO	8001			0693	15	8001	0549
583	0		SRT	0003	SEO		0549	30	0003	1507
584	0	I	RAM	OPTIM		I	1314	67	0754	1559
585	0		BD2	SHOP		SHIFT TEST	1559	92	1062	1364
586	0		SLT	0004	SEO	+ '+U	1364	35	0004	1507
587	0	SEO	STL	XXXX1		SAVE EV OD	1507	20	1961	1414
588	0		RAL	OPREG			1414	65	0643	0547
589	0		DIV	2IXXX			0547	14	0856	1267
590	0		RAU	8003			1267	60	8003	1375
591	0		ALO	XXXX1			1375	15	1961	1615
592	0		NZU		R8		1615	44	1169	0820
593	0		SLT	0002			1169	35	0002	1425
594	0		RAL	8002	R8		1425	65	8002	0820
595	0	R8	SRT	0008		GET BASE	0820	30	0008	0789
596	0		ALO	OPREG		PLUS DELTA	0789	15	0643	0597
597	0		DIV	50XXX			0597	14	3850	1261
598	0		RAL	8003	EXITZ		1261	65	8003	0756
599	1									
600	0	SHOP	BD3		XAS	IR TEST	1062	93	1815	1317
601	0		RAL	P0007			1815	65	1983	1137
602	0		SRT	0004		DIGIT OF	1137	30	0004	0647
603	0		SLT	0009		D ADDRESS	0647	35	0009	1367
604	0		SLO	8002			1367	16	8002	1475
605	0		TLU	U0001			1475	84	1250	3755
606	0		ALO	GU	8002		3755	15	1208	8002
607	0	8002	RAL	9969	TOP		8002	65	9969	1123
608	0	TOP	SLT	0002			1123	35	0002	1129
609	0		LDD	OPTIM		IS OP SRD	1129	69	0754	1557
610	0		BD4		SEO		1557	94	1210	1507
611	0		SLT	0004	SEO	SRD	1210	35	0004	1507
612	1									
613	0	XAS	RAL	P0007		TLU	1317	65	1983	1237
614	0		SRT	0004		D ADDRESS	1237	30	0004	0697
615	0		SLT	0006			0697	35	0006	1311
616	0		SLO	8002			1311	16	8002	1219
617	0		TLU	I0001			1219	84	1300	3805
618	0		ALO	GXD	8002		3805	15	1308	8002
619	0	8002	RAL	9968	NXT		8002	65	9968	1173
620	0	NXT	SLT	0004	SEO		1173	35	0004	1507
621	1									
622	0	U0001	00	2322	2524	SHIFT	1250	00	2322	2524
623	0	U0002	10	0706	0706	OPTIMIZING	1251	10	0706	0706
624	0	U0003	20	0706	0908	TABLE	1252	20	0706	0908
625	0	U0004	30	0908	1110		1253	30	0908	1110
626	0	U0005	40	1110	1312		1254	40	1110	1312
627	0	U0006	50	1312	1514		1255	50	1312	1514
628	0	U0007	60	1514	1716		1256	60	1514	1716
629	0	U0008	70	1716	1918		1257	70	1716	1918
630	0	U0009	80	1918	2120		1258	80	1918	2120
631	0	U0010	90	2120	2322		1259	90	2120	2322
632	1									
633	0	I0001	39	9906	0600	X ACCUM	1300	39	9906	0600
634	0	I0002	79	9907	0700	ADD SUB	1301	79	9907	0700
635	0	I0003	80	0008	0800	TABLE	1302	80	0008	0800
636	0	I0004	80	0106	0600		1303	80	0106	0600

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637	0	I0005	80	0209	0800		1304	80	0209	0800	
638	0	I0006	80	0308	0900		1305	80	0308	0900	
639	0	I0007	90	5908	0800		1306	90	5908	0800	
640	0	I0008	99	9909	0900		1307	99	9909	0900	
641	1										
642	0	GU	RAL	0000	TOP	CONSTANTS	1208	65	0000	1123	
643	0	GXD	RAL	0000	NXT		1308	65	0000	1173	
644	0		HED								
645	1										
646	1			SUB 17 CALC 800X EQUIVALENT							
647	1										
648	0		HED	X							
649	0	SB17D	LDD	DEQ	DI	D EQUIV	3900	69	1603	1006	
650	0	SB17I	LDD	IEQ	DI	I EQUIV	3950	69	1803	1006	
651	0	DI	STD	XXXX1		SAVE TAG	1006	24	1961	1464	
652	0		STU	EXITY		SAVE EXIT	1464	21	0624	1077	
653	0		STL	XXXX2		SAVE 800X	1077	20	1962	1865	
654	0		LDD	XXXX1	SUB13	CALC OPTIM	1865	69	1961	1114	
655	0	SDA	STL	EQUIV		DYNAM ADDR	1151	20	1013	1066	
656	0		DIV	2IXXX			1066	14	0856	1417	
657	0		STU	XXXX1		STORE EVEN	1417	21	1961	1514	
658	0		RAL	OPTIM		ODD FACTOR	1514	65	0754	1809	
659	0		BMI		XM	BRANCH IF	1809	46	1112	1313	
660	0		LDD	EXITZ		ARITHMETIC	1112	69	0756	1859	
661	0		BD5	D	I	OP CODE	1859	95	1162	1614	
662	0	D	RAL	XXXX2		AND LESSEN	1162	65	1962	1467	
663	0		SLO	8001		EVEN 8001	1467	16	0870	1525	
664	0		NZE	XM		DATA DA	1525	45	1313	1179	
665	0		RAL	XXXX1		BY 2 OR	1179	65	1961	1915	
666	0		NZE	EX		INCREASE	1915	45	1168	1269	
667	0		RAL	48	ALO	ANY 800X	1269	65	0822	1127	
668	0	I	RAL	EQUIV		INST DA	1614	65	1013	1517	
669	0		ALO	2IXXX		BY 2	1517	15	0856	1361	
670	0		STL	EQUIV	XM		1361	20	1013	1313	
671	0	XM	RAL	XXXX1		ADD TO DA	1313	65	1961	3115	
672	0		NZE	OD	EV	POSSIBLE	3115	45	1218	1319	
673	0	OD	RAL	8002	EO	EVEN OR	1218	65	1071	1575	
674	0	EV	RAL	8003	EO	ODD FACTOR	1319	65	0872	1575	
675	0	EO	SLO	XXXX2		FOR 8002	1575	16	1962	1617	
676	0		NZE	EX	ADD1	AND 8003 D	1617	45	1168	1121	
677	0	EX	RAL	EQUIV	EXITY	AND I DAS	1168	65	1013	0624	
678	0	ADD1	RAL	1IXXX	ALO		1121	65	0550	1127	
679	0	ALO	ALO	EQUIV	EXITY		1127	15	1013	0624	
680	1										
681	0	DEQ	00	0088	SDA		1603	00	0088	1151	
682	0	IEQ	00	0009	SDA		1803	00	0009	1151	
683	0	8001	00	0000	8001		0870	00	0000	8001	
684	0	8002	00	0000	8002		1071	00	0000	8002	
685	0	8003	00	0000	8003		0872	00	0000	8003	
686	0	48	00	0000	0048		0822	00	0000	0048	
687	0		HED								
688	1										
689	1			SUB 18 INDEX ADDRESS							
690	1										
691	0		HED	W							
692	0	INDEX	STL	XXXX1		STORE ADDR	1351	20	1961	1814	
693	0		STU	EXITY		STORE EXIT	1814	21	0624	1177	
694	0		RAU	1954		GET D TAG	1177	60	1954	1909	
695	0		SLT	0007		CLEAR OPCD	1909	35	0007	1825	
696	0		ALO	INDXI			1825	15	0828	1033	
697	0		LDD	EXITY			1033	69	0624	1227	
698	0		BD5	D	I	D OR I	1227	95	0830	0682	
699	0	I	SLT	0002			0682	35	0002	0839	
700	0		BD6	DRMI	CORI	TEST CORE	0839	96	0192	0594	
701	0	DRMI	NZU	COMP1		OR DRUM	0192	44	0345	0346	
702	0		SRT	0001	A		0346	30	0001	1853	
703	0	CORI	NZU	DTAG		AND I TAG	0594	44	0797	0248	
704	0		SRT	0002		CHNGE 4000	0248	30	0002	3855	
705	0		ALO	8002	A	TO 800	3855	15	8002	1853	
706	0	DTAG	SUP	8003			0797	11	8003	3905	
707	0		NZE	COMP2			3905	45	1358	3109	
708	0		RAL	8001		SET TO MPY	3109	65	8001	3165	
709	0		SLT	0001	CORD	ITAG BY200	3165	35	0001	1171	
710	0	D	SRT	0009		POSITN TAG	0830	30	0009	1401	
711	0		BD6	DRMD	CORD	TESTDRM OR	1401	96	1354	1171	
712	0	CORD	MPY	02001	A	CORE	1171	19	0824	1853	NOTE
713	0	DRMD	SLO	8002			1354	16	8002	1363	
714	0		NZU		A	IS THERE A	1363	44	1817	1853	
715	0		SUP	2IXXX			1817	11	0856	1411	
716	0		LDD	EXITY		TEST 80XX	1411	69	0624	1277	
717	0		BD7		800X	OR	1277	97	0880	0782	
718	0		BMI	DAX	D80XX	DRUM	0880	46	1083	0884	
719	0	D80XX	LDD	400IX		TAG B OR C	0884	69	1287	0840	-- +
720	0		STD	INDXI			0840	24	0828	1131	
721	0		NZU	DAX	A	TEST B C	1131	44	1083	1853	
722	0	800X	NZU	0945	D80XX	IS IT B	0782	44	0945	0884	
723	0	DAX	RAL	4000I	A	TAG A ANDC	1083	65	0836	1853	
724	0	A	ALO	XXXX1	EXITY		1853	15	1961	0624	
725	0	400IX	00	0000	0400		1287	00	0000	0400	
726	1										
727	0	COMP1	STU	ITAGW	1620R	SAVE TAG	0345	21	1451	1404	

Seq	Flag	Label	Op	Operand1	Operand2	Comment	Loc			
728	0	COMP2	STD	ITAGW	1620R		1358	24	1451	1404
729	0	1620R	RAU	1952			1404	60	1952	1607
730	0		NZU		CLRIT		1607	44	1461	1212
731	0		RAU	1954		TEST IR	1461	60	1954	3159
732	0		SIA	XXXX2		IR OP CODE	3159	23	1962	3765
733	0		TLU	)0001			3765	84	0600	3955
734	0		ALO	OPSRH	8002		3955	15	1408	8002
735	0	8002	SUP	)0013	ARS		8002	11	0612	1867
736	0	ARS	SRT	0004			1867	30	0004	1327
737	0		NZU		CLRIT		1327	44	1181	1212
738	0		RAL	1954		CLR I-TAG	1181	65	1954	3759
739	0		SRT	0002		FROM	3759	30	0002	3815
740	0		SLT	0002		INSTRUCTN	3815	35	0002	1221
741	0		STL	P0004			1221	20	1980	1133
742	0		STD	1954		ZERO I-GO	1133	24	1954	1807
743	0		STU	P0003	DNB C	FIND LOCAT	1807	21	1979	0832
744	0	CLRIT	STU	ITAGW	0954	ERROR	1212	21	1451	0954
745	0	OPSRH	SUP	0000	ARS		1408	11	0000	1867
746	0	ITAGW	HLT	0000	ITAGW		1451	01	0000	1451
747	1									
748	0	)0001	ALF	AXA	SOAP2	TAGGED	0600	61	8761	0000	NOTE
749	0	)0002	ALF	AXB	SOAP2	I-ADDRESS	0601	61	8762	0000
750	0	)0003	ALF	AXC	SOAP2	OP CODE	0602	61	8763	0000
751	0	)0004	ALF	RAA	SOAP2	SEARCH	0603	79	6161	0000
752	0	)0005	ALF	RAB	SOAP2	TABLE	0604	79	6162	0000
753	0	)0006	ALF	RAC	SOAP2		0605	79	6163	0000
754	0	)0007	ALF	RSA	SOAP2		0606	79	8261	0000
755	0	)0008	ALF	RSB	SOAP2		0607	79	8262	0000
756	0	)0009	ALF	RSC	SOAP2		0608	79	8263	0000
757	0	)0010	ALF	SXA	SOAP2		0609	82	8761	0000
758	0	)0011	ALF	SXB	SOAP2		0610	82	8762	0000
759	0	)0012	ALF	SXC	SOAP2		0611	82	8763	0000
760	0	)0013	ALF	99999	SOAP2	TABLE END	0612	99	9999	9999
761	0	EXITY	01	0000	EXITY	ERASEABLE	0624	01	0000	0624
762	0		HED							
763	1									
764	1			SUB 19 PROCESS LOCATION						
765	1									
767	0		REG	G0925	0925					
768	0		REG	J0928	0928					
769	0		REG	K0931	0931					
770	0		REG	L0933	0933					
771	1									
772	0		HED	A						
773	0	PROCL	STD	EXITX		STORE EXIT	1501	24	0653	1056
774	0		RAU	1951		IS L BLANK	1056	60	1951	1106
775	0		NZU	NB			1106	44	3809	1260
776	0		ALO	SEQLL			1260	15	0778	1183
777	0		BMI	BLNK			1183	46	0886	1337
778	0		LDD	TCORI			1337	69	0890	0793
779	0		BDO	K0001	L0003		0793	90	0931	0935
780	0	BLNK	RAU	DRUMT			0886	60	1453	1857
781	0		NZU	D0002	B		1857	44	0924	1262
782	0	B	RAL	OPREG	SETL	BLANK	1262	65	0643	0847
783	0	SETL	SLT	0004		SET L	0847	35	0004	1907
784	0		LDD	P0008		TO OR	1907	69	1984	1387
785	0		SDA	P0008			1387	22	1984	1437
786	0		RAL	SEQLL			1437	65	0778	1233
787	0		BMI	EXITX			1233	46	0653	1487
788	0		ALO	CTRSQ			1487	15	0990	0395
789	0		STL	SEQLL	EXITX		0395	20	0778	0653
790	0	NB	LDD	G	SUBR4	WHAT IS L	3809	69	1312	0850
791	0	G0001	RAL	1957	K0001	ABSOLUTE	0925	65	1957	0931
792	0	G0002	ALO	K	SUBR9		0926	15	1229	1500
793	0	G0003	LDD	J	SUBR6	SYMBOLIC	0927	69	0930	1050
794	0	G0101	LDD	J	SUBR6		1025	69	0930	1050
795	0	K0001	LDD	L	SUBR5	TEST RANGE	0931	69	1034	0900
796	0	K0002	RAU	87NTH	X	REG ERROR	0932	60	0494	0599
797	0	X	AUP	P0010		SET BLANK	0599	10	1986	0991
798	0		STU	P0010	SETL	L8	0991	21	1986	0847
799	0	L0001	STL	OPREG	SETL	DRUM ADDR	0933	20	0643	0847
800	0	L0002	STL	TYP3A	800X	800X LOC ———	0934	20	0680	1283
801	0	L0003	LDD	ORCEQ	89X	CORE ADDR	0935	69	0888	1091
802	0	L0004	RAU	87NTH	X	OTHER	0936	60	0494	0599
803	0	80XXL	RAU	87NTH	X	80XX ADDR	1912	60	0494	0599
804	0	800X	LDD	ORXEQ	89X		1283	69	1036	1091
805	0	89X	STD	OPREG	X		1091	24	0643	0599
806	0	J0001	RAL	EQUIV	K0001	SYM DEFIND	0928	65	1013	0931
807	0	J0002	RAL	D	SUB11	SYM UNDEF	0929	65	0882	1850
808	0	D0001	STL	OPREG	SS	S EQ FOUND	0923	20	0643	0396
809	0	D0002	RAU	87NTH	X	DRUM PAKED	0924	60	0494	0599
810	0	SS	AUP	HSYMB		STORE	0396	10	0622	1377
811	0		ALO	LSYMB		SYMBOL	1377	15	0197	1551
812	0		LDD	B	SUBR7		1551	69	1262	1400
813	1									
814	0	G	00	0000	G0001	CONSTANTS	1312	00	0000	0925
815	0	K	NOP	1957	K0001		1229	00	1957	0931
816	0	J	00	0008	J0001		0930	00	0008	0928
817	0	L	00	0000	L0001		1034	00	0000	0933
818	0	D	00	0090	D0001		0882	00	0090	0923
819	0	86TH	00	0008	0000		1601	00	0008	0000

820	0	87NTH	00	0000	8000		0494	00	0000	8000
821	0	EXITX	01	0000	EXITX	ERASEABLE	0653	01	0000	0653
822	0	OPREG	00	0000	0000		0643	00	0000	0000
823	0	DRUMT	01	0000	DRUMT		1453	01	0000	1453
824	0	ORCEQ	01	0000	ORCEQ		0888	01	0000	0888
825	0	ORXEQ	01	0000	ORXEQ		1036	01	0000	1036
826	0		HED							
827	1									
828	1			SUB 20 PROCESS DATA ADDRESS						
829	1									
830	0		REG	D0937	0937	PROC D				
831	0		REG	F0939	0939					
832	0		REG	G0941	0941					
833	0		REG	J0944	0944					
834	0		REG	K0946	0946					
835	0		REG	L0949	0949					
836	1									
837	0		HED	B						
838	0	PROCD	STD	EXITX		STORE EXIT	1801	24	0653	1156
839	0		RAU	1952			1156	60	1952	3107
840	0		NZU	NB			3107	44	1511	1362
841	0		ALO	SEQDD			1362	15	3865	1369
842	0		BMI		J0001		1369	46	0922	0944
843	0		RAL	D	SUB11	FIND	0922	65	1875	1850
844	0	D0001	STL	ORBAL	L0004	OPTIMUM D	0937	20	1141	0952
845	0	D0002	RAU	88TH	X	DRUM PAKED	0938	60	1241	0445
846	0	BT	LDD	OPTIM		IS OP	1851	69	0754	3157
847	0		BD1	CKSQD			3157	91	1310	1412
848	0		STL	OPREG	CKSQD		1412	20	0643	1310
849	0	X	AUP	P0010		SET BLANK	0445	10	1986	1291
850	0		STU	P0010	CKSQD		1291	21	1986	1310
851	0	CKSQD	RAL	SEQDD			1310	65	3865	1419
852	0		BMI	EXITX			1419	46	0653	1223
853	0		ALO	CTRSQ			1223	15	0990	0495
854	0		STL	SEQDD	EXITX		0495	20	3865	0653
855	0	NB	LDD	G	SUBR4	WHAT IS D	1511	69	1864	0850
856	0	G0001	RAL	1958	J0001		0941	65	1958	0944
857	0	G0002	ALO	J	SUBR9		0942	15	0595	1500
858	0	G0003	LDD	K	SUBR6	SYMBOLIC	0943	69	0446	1050
859	0	G0101	LDD	K--	SUBR6		1041	69	0644	1050
860	0	J0001	LDD	L	SUBR5	TEST RANGE	0944	69	0897	0900
861	0	J0002	RAU	88TH	X	REG ERROR	0945	60	1241	0445
862	0	L0001	AUP	AXD	INDEX	DRUM ADDR	0949	10	0852	1351
863	0	L0002	AUP	AX8A	INDEX	TEST TAG	0950	10	1903	1351
864	0	L0003	AUP	AXC	INDEX	CORE ADDR	0951	10	1454	1351
865	0	L0004	SLT	0004	SD	OTHER	0952	35	0004	1413
866	0	80XXD	AUP	AX8T	INDEX	80XX ADDR	1928	10	1231	1351
867	0	800X	SLT	0004		SET 80XX D	1901	35	0004	1561
868	0		LDD	P0007			1561	69	1983	1086
869	0		SDA	P0007			1086	22	1983	1136
870	0		SRT	0004			1136	30	0004	0997
871	0		AUP	XEQ	SB17D	GET 800X E	0997	10	3101	3900
872	0	SCD	SLT	0004		SET CORE D	3151	35	0004	1611
873	0		LDD	P0007			1611	69	1983	1236
874	0		SDA	P0007			1236	22	1983	1286
875	0		SRT	0004			1286	30	0004	1047
876	0		LDD	CEQ	SUB13	GET CORE E	1047	69	3751	1114
877	0	SCEQ	STL	ORCEQ	BT	SAVE CORE	3801	20	0888	1851
878	0	K0001	STD	PCHEX	K0003		0946	24	1630	0948
879	0	K0002	RAL	EQUIV	J0001		0947	65	1013	0944
880	0	K0003	RAL	F	SUB11		0948	65	3851	1850
881	0	F0001	STL	EQ	SS	SAVE EQ	0939	20	0843	0496
882	0	F0002	STU	DDRMT	J0002	DRUM PAKED	0940	21	0694	0945
883	0	SS	AUP	HSYMB		STORE	0496	10	0622	1427
884	0		ALO	LSYMB		SYMBOL	1427	15	0197	3901
885	0		LDD		SUBR7		3901	69	1504	1400
886	0		RAL	EQ	L0001		1504	65	0843	0949
887	0	SD	LDD	P0007		SET D ADDR	1413	69	1983	1336
888	0		SDA	P0007			1336	22	1983	1386
889	0		SRT	0004	BT		1386	30	0004	1851
890	1									
891	0	D	00	0088	D0001	CONSTANTS	1875	00	0088	0937
892	0	G	00	0000	G0001		1864	00	0000	0941
893	0	J	NOP	1958	J0001		0595	00	1958	0944
894	0	L	00	0000	L0001		0897	00	0000	0949
895	0	F	00	0088	F0001		3851	00	0088	0939
896	0	K	00	0089	K0002		0446	00	0089	0947
897	0	K-	- 00	0089	K0002		0644	- 00	0089	0947
898	0	AXD	00	0888	D0001		0852	00	0888	0937
899	0	AXC	00	0098	SCD		1454	00	0098	3151
900	0	AX8T	00	0988	L0004		1231	00	0988	0952
901	0	AX8A	00	0988	800X		1903	00	0988	1901
902	0	XEQ	STL	ORXEQ	BT		3101	20	1036	1851
903	0	CEQ	00	0098	SCEQ		3751	00	0098	3801
904	0	88TH	00	0000	0800		1241	00	0000	0800
905	0	EQ	01	0000	EQ	ERASEABLE	0843	01	0000	0843
906	0	ORBAL	01	0000	ORBAL		1141	01	0000	1141
907	0		HED							
908	1									
909	1			SUB 21 PROCESS INSTR ADDRESS						
910	1									

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911	0		REG	D0953	0953	PROC I					
912	0		REG	F0955	0955						
913	0		REG	G0958	0958						
914	0		REG	J0960	0960						
915	0		REG	K0962	0962						
916	0		REG	L0965	0965						
917	1										
918	0		HED	C							
919	0	PROCI	STD	EXITX		STORE EXIT	3951	24	0653	1356	
920	0		RAU	1953		IS I BLANK	1356	60	1953	3757	
921	0		NZU	NB			3757	44	1011	1462	
922	0		ALO	SEQII			1462	15	3915	1469	
923	0		BMI		J0001		1469	46	0972	0960	
924	0		RAU	1952		IS D BLANK	0972	60	1952	3807	
925	0		NZU	DNB			3807	44	0832	1512	
926	0		AUP	DRUMT			1512	10	1453	3857	
927	0		NZU	G0002			3857	44	0959	1562	
928	0		RAL	ORBAL	L0004	TAG	1562	65	1141	0968	
929	0	DNB	RAL	D	SUB11	FIND BEST	0832	65	0885	1850	
930	0	D0001	STL	ORBAL	L0001	FOUND	0953	20	1141	0965	
931	0	D0002	RAL	P0010	X	DRUM PAKED	0954	65	1986	1341	
932	0	X	ALO	89TH			1341	15	0794	0649	
933	0		STL	P0010	CKSQI		0649	20	1986	0889	
934	0	NB	LDD	F	SUBR4	WHAT IS I	1811	69	1914	0850	
935	0	F0001	RAL	1959	J0001	ABSOLUTE	0955	65	1959	0960	
936	0	F0002	ALO	J	SUBR9		0956	15	3859	1500	
937	0	F0003	LDD	K	SUBR6	SYMBOLIC	0957	69	1360	1050	
938	0	F0101	LDD	K	SUBR6		1055	69	1360	1050	
939	0	J0001	LDD	L	SUBR5	TEST RANGE	0960	69	1463	0900	
940	0	J0002	RAL	P0010	X	REG ERROR	0961	65	1986	1341	NOTE
941	0	L0001	AUP	AXD	INDEX	DRUM ADDR	0965	10	1268	1351	
942	0	L0002	AUP	8002	800X	800X	0966	10	8002	1925	
943	0	L0003	AUP	AXC	INDEX	CORE ADDR	0967	10	0970	1351	NOTE
944	0	L0004	LDD	P0007		OTHER	0968	69	1983	1436	
945	0		SIA	P0007	MOR		1436	23	1983	1486	
946	0	80XXI	NOP	0000	L0004	80XX IADDR	1944	00	0000	0968	
947	0	800X	ALO	INDXI			1925	15	0828	1333	
948	0		ALO	8001			1333	15	8001	0989	
949	0		LDD	P0007			0989	69	1983	1536	
950	0		SIA	P0007			1536	23	1983	1586	
951	0		RAL	8003			1586	65	8003	0893	
952	0		AUP	XEQ	SB17I		0893	10	0546	3950	
953	0	90XX	LDD	P0007		SET CORE	1052	69	1983	1836	
954	0		SIA	P0007		ADDRESS	1836	23	1983	1886	
955	0		LDD	CEQ	SUB13	GET CORE E	1886	69	1039	1114	
956	0	K0001	RAL	EQUIV	J0001	SYM DEFIND	0962	65	1013	0960	
957	0	K0002	RAL	G	SUB11	SYM UNDEF	0963	65	1116	1850	
958	0	G0001	AUP	AXDS	INDEX	FOUND BEST	0958	10	1861	1351	NOTE
959	0	G0002	RAL	P0010	X	DRUM PAKED	0959	65	1986	1341	
960	0	LDD	LDD	P0007	SI		1102	69	1983	1936	NOTE
961	0	SI	SIA	P0007			1936	23	1983	3136	
962	0		RAL	XXXX1			3136	65	1961	3965	
963	0		AUP	HSYMB		STORE	3965	10	0622	1477	
964	0		ALO	LSYMB		SYMBOL	1477	15	0197	1152	
965	0		LDD	MOR	SUBR7		1152	69	1486	1400	
966	0	MOR	LDD	ORBAL		SET OR	1486	69	1141	0844	
967	0		STD	OPREG	CKSQI		0844	24	0643	0889	
968	0	CKSQI	RAL	SEQII			0889	65	3915	1519	
969	0		BMI	EXITX			1519	46	0653	1273	
970	0		ALO	CTRSQ			1273	15	0990	0645	
971	0		STL	SEQII	EXITX		0645	20	3915	0653	
972	0	SCEQ	STL	ORCEQ	MOR	SAVE CORE	1352	20	0888	1486	NOTE
973	1										
974	0	D	00	0089	D0001	CONSTANTS	0885	00	0089	0953	
975	0	F	00	0000	F0001		1914	00	0000	0955	
976	0	J	NOP	1959	J0001		3859	00	1959	0960	
977	0	K	00	0099	K0001		1360	00	0099	0962	
978	0	L	00	0000	L0001		1463	00	0000	0965	
979	0	G	00	0089	G0001		1116	00	0089	0958	
980	0	89TH	00	0000	0080		0794	00	0000	0080	
981	0	AXD	00	0089	L0004		1268	00	0089	0968	
982	0	AXC	00	0099	90XX		0970	00	0099	1052	
983	0	AXDS	00	0089	LDD		1861	00	0089	1102	
984	0	XEQ	STL	ORXEQ	MOR		0546	20	1036	1486	
985	0	CEQ	00	0009	SCEQ		1039	00	0009	1352	
986	0		HED								
987	1										
988	1			SUB 2 RESERVE UNRESERVE							
989	1										
990	0		HED	2							
991	0	SUBR2	STD	EXITY			1402	24	0624	1527	+
992	0		STL	N		STORE N	1527	20	1281	1084	
993	0		SLO	8001			1084	16	8001	1391	
994	0		AUP	8003			1391	10	1453	0699	
995	0		SRT	0003			0699	30	0003	3907	
996	0		STU	X		SAVE GROUP	3907	21	1612	1166	
997	0		SUP	8001			1166	11	8001	1323	
998	0		SLT	0001			1323	35	0001	1279	
999	0		STU	P		SAVE BAND	1279	21	1134	1537	
1000	0		SUP	8001			1537	11	8001	0993	
1001	0		SLT	0002			0993	35	0002	0799	

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1002	0		MPY	5IXXX		GET	0799	19	1452	1373
1003	0		SRT	0001		TABLE	1373	30	0001	1329
1004	0		LDD		GDA11		1329	69	1032	0347
1005	0		SLT	0001			1032	35	0001	1089
1006	0		STU	ANY			1089	21	0894	1097
1007	0		SRT	0002			1097	30	0002	3103
1008	0		SLO	8002			3103	16	8002	1911
1009	0		SRT	0006			1911	30	0006	1975
1010	0		ALO	8001			1975	15	8001	1331
1011	0		ALO	H5			1331	15	1184	1139
1012	0		NZU		SLT		1139	44	1043	0994
1013	0		ALO	5000	SLT		1043	15	0596	0994
1014	0	SLT	SLT	0002			0994	35	0002	1502
1015	0		ALO	BGIN2			1502	15	1406	3111
1016	0		STL	A393			3111	20	1216	1569
1017	0		RAU	ANY			1569	60	0894	0849
1018	0		AUP	X			0849	10	1612	1917
1019	0		ALO	P			1917	15	1134	1239
1020	0		SLT	0004			1239	35	0004	0899
1021	0		ALO	C1		GET SLT	0899	15	1552	3957
1022	0		STL	B0002		AND SRT	3957	20	0042	0695
1023	0		LDD	C2		INSTRUCTNS	0695	69	0298	1602
1024	0		SDA	SPR			1602	22	1456	3909
1025	0		AUP	C3	SU	AND RAL	3909	10	1812	3117
1026	0	SU	STU	SA			3117	21	1022	3125
1027	0		AUP	C4	8003		3125	10	0878	8003
1028	0	8003	RAL	9992	B0002		8003	65	9992	0042
1029	0	B0002	SLT	0009	XX		0042	35	0009	1513
1030	0	XX	ALO	8003			1513	15	8003	1271	NOTE
1031	0		RAU	8002			1271	60	8002	1379
1032	0		SLT	0001			1379	35	0001	1035
1033	0		SRT	0001			1035	30	0001	1441
1034	0		AUP	W	SPR		1441	10	1962	1456
1035	0	SPR	SRT	0009	SAC		1456	30	0009	1577
1036	0	SAC	AUP	8002	SA		1577	10	8002	1022
1037	0	SA	STU	9983	B0001		1022	21	9983	0041
1038	1									
1039	0	B0001	RAL	N		IS N ZERO	0041	65	1281	1085	NOTE
1040	0		NZE	1OR50	EXITY		1085	45	0988	0624
1041	0	1OR50	SLO	11XXX	NEXT	REDUCE N	0988	16	0550	1506
1042	0	NEXT	STL	N	EITHR	BY 1	1506	20	1281	1234
1043	0	EITHR	RAU	SA	EITH2	IS AI	1234	60	1022	1827
1044	0	EITH2	SUP	A393		AT BAND	1827	11	1216	1321
1045	0		BMI		TPL	END YES	1321	46	0874	3175
1046	0		AUP	8001		NO	0874	10	8001	1381	NOTE
1047	0		AUP		SU		1381	10	1284	3117
1048	0		00	0008	0000		1284	00	0008	0000
1049	1									
1050	0	TPL	AUP	8001		BAND END	3175	10	8001	1431
1051	0		ALO	8001		TEST TABL	1431	15	8001	1587
1052	0		SUP	LAST		END	1587	11	1040	0795
1053	0		BMI		TP	NO STEP	0795	46	0348	0999
1054	0		AUP	8001		TO NXT BND	0348	10	8001	1556
1055	0		ALO	50D			1556	15	3959	1613
1056	0		STL	A393			1613	20	1216	1619
1057	0		AUP		SU		1619	10	1072	3117
1058	0		00	0018	0000		1072	00	0018	0000	NOTE
1059	1									
1060	0	TP	LDD	BGIN2			0999	69	1406	1410	.
1061	0		STD	A393	TPR		1410	24	1216	1819
1062	0	TPR	RAL	SPR			1819	65	1456	3161	NOTE
1063	0		SLO	C2		IS P 9	3161	16	0298	3153
1064	0		NZE		ZP		3153	45	1606	1458
1065	0		ALO	C5			1606	15	1460	1266
1066	0		LDD	C1			1266	69	1552	1806
1067	0		SDA	B0002			1806	22	0042	0845
1068	0		STL	SPR	56		0845	20	1456	1510
1069	0	56	RAU	SA	SZ	REDUCE AI	1510	60	1022	1877
1070	0	SZ	SUP		SU	BY 482	1877	11	1030	3117
1071	0		00	0482	0000		1030	00	0482	0000
1072	1									
1073	0	ZP	LDD	C1		SET P TO	1458	69	1552	1856
1074	0		STD	B0002		ZERO	1856	24	0042	0895
1075	0		LDD	C7			0895	69	0398	1802
1076	0		STD	SPR	78		1802	24	1456	1560
1077	0	78	RAU	SA	178	REDUCE AI	1560	60	1022	1927
1078	0	178	SUP		SU	BY 481	1927	11	1080	3117
1079	0		00	0481	0000		1080	00	0481	0000
1080	1										NOTE
1081	0	C1	SLT	0000	XX	CONSTANTS	1552	35	0000	1513
1082	0	C2	SRT	0009	SAC		0298	30	0009	1577
1083	0	C3	STU	0000	B0001		1812	21	0000	0041
1084	0	C4	44	0000	0001		0878	44	0000	0001
1085	0	A393	STU	0482	B0001		1216	21	0482	0041
1086	0	C5	SRT	0010	SAC		1460	30	0010	1577
1087	0	C7	SRT	0000	SAC		0398	30	0000	1577
1088	0	W	HLT	0000	W		1962	01	0000	1962	NOTE
1089	0	P	HLT	0000	P		1134	01	0000	1134
1090	0	N	HLT	0000	N		1281	01	0000	1281
1091	0	SPR	HLT	0000	SPR		1456	01	0000	1456
1092	0	SA	HLT	0000	SA		1022	01	0000	1022

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1093	0	X	HLT	0000	X		1612	01	0000	1612
1094	0	5IXXX	00	0000	0005		1452	00	0000	0005
1095	0	LAST	STU	0482	B0001		1040	21	0482	0041
1096	0	H5	50	0000	0000		1184	50	0000	0000
1097	0	5000	00	0000	5000		0596	00	0000	5000
1098	0	BGIN2	STU	0032	B0001		1406	21	0032	0041
1099	0	50D	00	0050	0000		3959	00	0050	0000
1100	0		HED	2						
1101	0		HED							
1102	1									
1103	1		OPTIMIZING TABLE							
1104	1									
1105	0	N0001	01	0004	0498	NOP HLT	0700	01	0004	0498
1106	0	N0002	02	3323	2299	UFA	0701	02	3323	2299
1107	0	N0003	07	0005	0598	03 TO 07	0702	07	0005	0598
1108	0	N0004	08	3312	1299	LIB ILL OP	0703	08	3312	1299
1109	0	N0005	09	3302	0299	LDI	0704	09	3302	0299
1110	0	N0006	- 11	3305	0499	AUP SUP	0705	- 11	3305	0499
1111	0	N0007	13	0000	0099	RSR	0706	13	0000	0099
1112	0	N0008	14	3311	1099	DIV	0707	14	3311	1099
1113	0	N0009	- 18	3305	0499	15 TO 18	0708	- 18	3305	0499
1114	0	N0010	19	3321	2099	MPY	0709	19	3321	2099
1115	0	N0011	20	5403	0399	STL	0710	20	5403	0399
1116	0	N0012	21	4503	0399	STU	0711	21	4503	0399
1117	0	N0013	23	3403	0399	SDA SIA	0712	23	3403	0399
1118	0	N0014	24	3303	0399	STD SFM	0713	24	3303	0399
1119	0	N0015	25	4405	0598	NTS	0714	25	4405	0598
1120	0	N0016	26	0004	0498	BIN	0715	26	0004	0498
1121	0	N0017	27	0005	0598	SET WTS	0716	27	0005	0598
1122	0	N0018	28	3312	1299	SIB	0717	28	3312	1299
1123	0	N0019	29	3302	0299	STI	0718	29	3302	0299
1124	0	N0020	30	0000	9888	SRT SPS	0719	30	0000	9888
1125	0	N0021	31	0000	8888	SRD	0720	31	0000	8888
1126	0	N0022	33	3327	2699	FAD FSB	0721	33	3327	2699
1127	0	N0023	34	3300	0099	FDV	0722	34	3300	0099
1128	0	N0024	36	0000	9888	SLT SCT	0723	36	0000	9888
1129	0	N0025	38	3327	2699	FAM FSM	0724	38	3327	2699
1130	0	N0026	39	3300	0099	FMP	0725	39	3300	0099
1131	0	N0027	43	3304	0498	40 TO 43	0726	43	3304	0498
1132	0	N0028	44	3404	0598	NZU	0727	44	3404	0598
1133	0	N0029	45	4305	0498	NZE	0728	45	4305	0498
1134	0	N0030	46	3304	0498	BMI	0729	46	3304	0498
1135	0	N0031	47	3305	0598	BOV	0730	47	3305	0598
1136	0	N0032	49	3304	0498	NZC BMC	0731	49	3304	0498
1137	0	N0033	53	0000	0988	50 TO 53	0732	53	0000	0988
1138	0	N0034	54	4405	0598	NEF	0733	54	4405	0598
1139	0	N0035	57	0005	0598	55 TO 57	0734	57	0005	0598
1140	0	N0036	59	0000	0988	AXC SXC	0735	59	0000	0988
1141	0	N0037	- 61	3305	0499	RAU RSU	0736	- 61	3305	0499
1142	0	N0038	63	3305	0699	TLE	0737	63	3305	0699
1143	0	N0039	64	3311	1099	DVR	0738	64	3311	1099
1144	0	N0040	- 68	3305	0499	65 TO 68	0739	- 68	3305	0499
1145	0	N0041	69	3303	0399	LDD	0740	69	3303	0399
1146	0	N0042	78	0000	0099	70 TO 78	0741	78	0000	0099
1147	0	N0043	79	0005	0599	RPY	0742	79	0005	0599
1148	0	N0044	83	0000	0988	80 TO 83	0743	83	0000	0988
1149	0	N0045	84	3305	0699	TLU	0744	84	3305	0699
1150	0	N0046	87	0005	0598	85 TO 87	0745	87	0005	0598
1151	0	N0047	89	0000	0988	RAC RSC	0746	89	0000	0988
1152	0	N0048	90	4405	0598	BDO	0747	90	4405	0598
1153	0	N0049	00	3306	0599	NAC	0748	00	3306	0599
1154	0	N0050	00	5406	0598	ELU NEU	0749	00	5406	0598
1155	0	N0051	98	3305	0598	BD1 TO BD8	0750	98	3305	0598
1156	0	N0052	99	4405	0598	BD9	0751	99	4405	0598
1157	0	N0053	00	6503	0399	ANC	0752	00	6503	0399
1158	1									
1159	1		SYMBOLIC OP TABLE							
1160	1									
1161	0	1650	SEQ							
1162	0		61	7366	4806	ALF	1650	61	7366	4806
1163	0		61	7376	0150	ALO	1651	61	7376	0150
1164	0		61	7473	0170	AML	1652	61	7473	0170
1165	0		61	7563	8920	ANC	1653	61	7563	8920
1166	0		61	8477	0100	AUP	1654	61	8477	0100
1167	0		61	8761	0500	AXA	1655	61	8761	0500
1168	0		61	8762	0520	AXB	1656	61	8762	0520
1169	0		61	8763	0580	AXC	1657	61	8763	0580	NOTE
1170	0		62	6476	0900	BDO	1658	62	6476	0900
1171	0		62	6490	0900	BDO NOW OK	1659	62	6490	0900
1172	0		62	6491	0910	BD1	1660	62	6491	0910
1173	0		62	6492	0920	BD2	1661	62	6492	0920
1174	0		62	6493	0930	BD3	1662	62	6493	0930
1175	0		62	6494	0940	BD4	1663	62	6494	0940
1176	0		62	6495	0950	BD5	1664	62	6495	0950
1177	0		62	6496	0960	BD6	1665	62	6496	0960
1178	0		62	6497	0970	BD7	1666	62	6497	0970	NOTE
1179	0		62	6498	0980	BD8	1667	62	6498	0980
1180	0		62	6499	0990	BD9	1668	62	6499	0990
1181	0		62	6975	0260	BIN	1669	62	6975	0260
1182	0		62	7361	4802	BLA	1670	62	7361	4802
1183	0		62	7379	4801	BLR	1671	62	7379	4801

1184	0		62	7461	0410	BMA	1672	62	7461	0410	
1185	0		62	7462	0430	BMB	1673	62	7462	0430	
1186	0		62	7463	0490	BMC	1674	62	7463	0490	
1187	0		62	7469	0460	BMI	1675	62	7469	0460	
1188	0		62	7677	4814	BOP	1676	62	7677	4814	
1189	0		62	7685	0470	BOV	1677	62	7685	0470	
1190	0		62	8283	0570	BST	1678	62	8283	0570	NOTE
1191	0		64	6985	0140	DIV	1679	64	6985	0140	
1192	0		64	7361	4815	DLA	1680	64	7361	4815	
1193	0		64	8579	0640	DVR	1681	64	8579	0640	
1194	0		65	7384	8643	ELU	1682	65	7384	8643	NOTE
1195	0		65	7884	4804	EQU	1683	65	7884	4804	
1196	0		66	6164	0320	FAD	1684	66	6164	0320	
1197	0		66	6174	0370	FAM	1685	66	6174	0370	
1198	0		66	6485	0340	FDV	1686	66	6485	0340	
1199	0		66	7477	0390	FMP	1687	66	7477	0390	
1200	0		66	8262	0330	FSB	1688	66	8262	0330	
1201	0		66	8274	0380	FSM	1689	66	8274	0380	
1202	0		68	6564	4808	HED	1690	68	6564	4808	
1203	0		68	7383	0010	HLT	1691	68	7383	0010	
1204	0		73	6464	0690	LDD	1692	73	6464	0690	
1205	0		73	6469	0090	LDI	1693	73	6469	0090	
1206	0		73	6962	0080	LIB	1694	73	6962	0080	
1207	0		74	7788	0190	MPY	1695	74	7788	0190	
1208	0		75	6163	8565	NAC	1696	75	6163	8565	
1209	0		75	6566	0540	NEF	1697	75	6566	0540	+
1210	0	1700	SEQ								
1211	0		75	6584	8642	NEU	1700	75	6584	8642	
1212	0		75	7677	0000	NOP	1701	75	7677	0000	
1213	0		75	8382	0250	NTS	1702	75	8382	0250	
1214	0		75	8961	0400	NZA	1703	75	8961	0400	NOTE
1215	0		75	8962	0420	NZB	1704	75	8962	0420	
1216	0		75	8963	0480	NZC	1705	75	8963	0480	
1217	0		75	8965	0450	NZE	1706	75	8965	0450	
1218	0		75	8984	0440	NZU	1707	75	8984	0440	
1219	0		77	6183	4807	PAT	1708	77	6183	4807	
1220	0		77	6368	0710	PCH	1709	77	6368	0710	
1221	0		77	8283	4812	PST	1710	77	8283	4812	
1222	0		79	6161	0800	RAA	1711	79	6161	0800	
1223	0		79	6162	0820	RAB	1712	79	6162	0820	
1224	0		79	6163	0880	RAC	1713	79	6163	0880	
1225	0		79	6173	0650	RAL	1714	79	6173	0650	
1226	0		79	6174	0670	RAM	1715	79	6174	0670	
1227	0		79	6184	0600	RAU	1716	79	6184	0600	
1228	0		79	6279	4811	RBR	1717	79	6279	4811	
1229	0		79	6364	0700	RCD	1718	79	6364	0700	
1230	0		79	6391	0720	RC1	1719	79	6391	0720	
1231	0		79	6392	0750	RC2	1720	79	6392	0750	
1232	0		79	6393	0780	RC3	1721	79	6393	0780	
1233	0		79	6479	4813	RDR	1722	79	6479	4813	
1234	0		79	6482	0860	RDS	1723	79	6482	0860	
1235	0		79	6491	0700	RD1	1724	79	6491	0700	
1236	0		79	6492	0730	RD2	1725	79	6492	0730	
1237	0		79	6493	0760	RD3	1726	79	6493	0760	
1238	0		79	6567	4803	REG	1727	79	6567	4803	
1239	0		79	6573	4809	REL	1728	79	6573	4809	
1240	0		79	6578	4810	REQ	1729	79	6578	4810	
1241	0		79	7788	0790	RPY	1730	79	7788	0790	
1242	0		79	8261	0810	RSA	1731	79	8261	0810	
1243	0		79	8262	0830	RSB	1732	79	8262	0830	
1244	0		79	8263	0890	RSC	1733	79	8263	0890	NOTE
1245	0		79	8273	0660	RSL	1734	79	8273	0660	
1246	0		79	8274	0680	RSM	1735	79	8274	0680	
1247	0		79	8279	0120	RSR	1736	79	8279	0120	
1248	0		79	8284	0610	RSU	1737	79	8284	0610	
1249	0		79	8361	0050	RTA	1738	79	8361	0050	
1250	0		79	8363	0030	RTC	1739	79	8363	0030	NOTE
1251	0		79	8375	0040	RTN	1740	79	8375	0040	
1252	0		79	8382	8205	RTS	1741	79	8382	8205	
1253	0		79	8664	0550	RWD	1742	79	8664	0550	
1254	0		82	6383	0360	SCT	1743	82	6383	0360	
1255	0		82	6461	0220	SDA	1744	82	6461	0220	
1256	0		82	6482	0850	SDS	1745	82	6482	0850	
1257	0		82	6578	4816	SEQ	1746	82	6578	4816	
1258	0		82	6583	0270	SET	1747	82	6583	0270	
1259	0	1750	SEQ								
1260	0		82	6674	5019	SFM	1750	82	6674	5019	
1261	0		82	6961	0230	SIA	1751	82	6961	0230	
1262	0		82	6962	0280	SIB	1752	82	6962	0280	
1263	0		82	7376	0160	SLO	1753	82	7376	0160	
1264	0		82	7383	0350	SLT	1754	82	7383	0350	
1265	0		82	7473	0180	SML	1755	82	7473	0180	
1266	0		82	7782	5630	SPS	1756	82	7782	5630	
1267	0		82	7964	0310	SRD	1757	82	7964	0310	
1268	0		82	7983	0300	SRT	1758	82	7983	0300	
1269	0		82	8364	0240	STD	1759	82	8364	0240	
1270	0		82	8369	0290	STI	1760	82	8369	0290	
1271	0		82	8373	0200	STL	1761	82	8373	0200	
1272	0		82	8384	0210	STU	1762	82	8384	0210	
1273	0		82	8477	0110	SUP	1763	82	8477	0110	
1274	0		82	8761	0510	SXA	1764	82	8761	0510	

Line	Flag	Label	Op	A	B	Comment	Loc				Note
1275	0			82	8762	0530	SXB	1765	82	8762	0530
1276	0			82	8763	0590	SXC	1766	82	8763	0590
1277	0			82	8875	4805	SYN	1767	82	8875	4805
1278	0			83	6177	4817	TAP	1768	83	6177	4817
1279	0			83	7365	0630	TLE	1769	83	7365	0630
1280	0			83	7384	0840	TLU	1770	83	7384	0840
1281	0			83	8876	7879	TYO	1771	83	8876	7879
1282	0			84	6661	0020	UFA	1772	84	6661	0020
1283	0			86	6482	0870	WDS	1773	86	6482	0870
1284	0			86	7991	0710	WR1	1774	86	7991	0710
1285	0			86	7992	0740	WR2	1775	86	7992	0740
1286	0			86	7993	0770	WR3	1776	86	7993	0770
1287	0			86	8361	0070	WTA	1777	86	8361	0070
1288	0			86	8374	0560	WTM	1778	86	8374	0560
1289	0			86	8375	0060	WTN	1779	86	8375	0060
1290	0			86	8382	5307	WTS	1780	86	8382	5307
1291	0			87	6679	4818	XFR	1781	87	6679	4818
1292	0			95	6364	4819	5CD	1782	95	6364	4819
1293	0			00	0000	0000		1783	00	0000	0000
1294	0			00	0000	0000		1784	00	0000	0000
1295	0			00	0000	0000		1785	00	0000	0000
1296	0			99	9999	9999	TABLE END	1786	99	9999	9999
1297	0		SEQ								
1298	1										
1299	1				CONTROL PROGRAM						
1300	1										
1301	0	1000	LDD	READC	SUB16	ENTRY	1000	69	1950	3753
1302	1										
1303	0	READC	RCD	1999	1998	READ CARD	1950	70	1999	1998
1304	0	1998	RAU	1951		TRANSFER	1998	60	1951	1906
1305	0		STD	P0001		ALPHABETIC	1906	24	1977	1130
1306	0		STL	INDXI			1130	20	0828	1481
1307	0		LDD	1952		INPUT	1481	69	1952	3106
1308	0		STD	P0002		TO	3106	24	1978	1531
1309	0		LDD	1953		OUTPUT	1531	69	1953	3156
1310	0		STD	P0003			3156	24	1979	1082
1311	0		LDD	1954			1082	69	1954	1508
1312	0		STD	P0004			1508	24	1980	1383
1313	0		LDD	1955			1383	69	1955	1558
1314	0		STD	P0005			1558	24	1981	1334
1315	0		LDD	1956			1334	69	1956	1610	NOTE
1316	0	COUNT	STD	P0006	COUNT		1610	24	1982	1135
1317	0	COUNT	RAL	P0009		STEP	1135	65	1985	1289
1318	0		ALO	1IXXX		CARD	1289	15	0550	3756
1319	0		STL	P0009		NUMBER	3756	20	1985	1038	+
1320	0		RAU	1960			1038	60	1960	1316
1321	0		STL	TYP3A		ZRO TESTWD	1316	20	0680	1433
1322	0		SRT	0002		STORE	1433	30	0002	1339
1323	0		SLO	8002		CONTROL	1339	16	8002	1147
1324	0		STD	P0010		INFO	1147	24	1986	1389
1325	0		ALO	8003			1389	15	8003	1247
1326	0		AUP	TRANS			1247	10	0640	0995
1327	0		STU	P0008	INTOX		0995	21	1984	0652
1328	0	INTOX	ALO	TORG	8002	TRANSFER	0652	15	3806	8002
1329	0	8002	NOP	0999	9999	TO TYPE	8002	00	0999	9999
1330	0	INTOX	ALO	TORGP	FIRST	OR MULTI	0652	15	0299	1353
1331	0	INTOX	ALO	TORGP	TEST	PASS CNTRL	0652	15	0299	3803	NOTE
1332	1										
1333	0	TORG	00	0000	T0001		3806	00	0000	1990
1334	1										NOTE
1335	0	TORGP	00	0000	00001	CONSTANTS	0299	00	0000	1185	--0+
1336	1										
1337	1										
1338	1				PUNCH ROUTINE						
1339	1										
1340	0		HED	+							
1341	0	PUNCH	RAL	TYP3A		TEST TYP3	1852	65	0680	1235
1342	0		NZE		H8PRE		1235	45	1088	1439
1343	0		RAU	P0010		ADD CONTRL	1088	60	1986	1491
1344	0		AUP	86THA	PREH8	8 TO P0010	1491	10	1601	3856	NOTE
1345	0	H8PRE	RAU	P0010	PREH8		1439	60	1986	3856
1346	0	PREH8	LDD	SET5	H8SUB		3856	69	0772	1057
1347	3	SET5	RAL	PCHEX	LIT	1/CD EXIT	0772	65	1630	1285
1348	3	SET5	NZE	PEXIT	5/CD	5/CD ENTRY	0772	45	0776	3127
1349	3	SET5	LDD	BRNCH	RSTOR	A TYP3 LIT	0772	69	3783	3798	NOTE
1350	0	5/CD	BOV				3127	47	1180	1180
1351	0		RAU	P0010		TEST NEG	1180	60	1986	1541
1352	0		SLT	0001		INSTRCTN	1541	35	0001	1297
1353	0		AUP	H8XXX			1297	10	0858	1813
1354	0		BOV	NEG			1813	47	1366	1318
1355	0		RAM	P0007	POSIT	POSITIVE	1318	67	1983	1787
1356	0	NEG	RSM	P0007	POSIT	NEGATIVE	1366	68	1983	1787
1357	3	POSIT	STL	+0006	*0001	STOR INST	1787	20	0982	0045
1358	0	*0001	RAL	P0008			0045	65	1984	1489
1359	0		LDD	8003	LOC		1489	69	8003	0646
1360	3	LOC	SDA	-0005	*0002	STOR LOC	0646	22	1941	0046	NOTE
1361	0	*0002	RAU	*POSIT			0046	60	1787	1791
1362	0		SUP	+MAX		TEST PCH	1791	11	1044	1049
1363	0		NZU		5CD		1049	44	3853	1554
1364	0		AUP	+AMP1	+	UP STORE	3853	10	3906	3761
1365	0	+	STU	POSIT		INSTRCTNS	3761	21	1787	1090

1366	0		AUP	LOCM				1090	10	1093	1347
1367	0		STU	LOC	PEXIT			1347	21	0646	0776
1368	1										
1369	0	5CD	RAU	−0003				1554	60	1939	1143
1370	0		SRT	0002		SET 5/CD		1143	30	0002	1099
1371	0		ALO	−0005		LOCATIONS		1099	15	1941	1045
1372	0		SRT	0004		IN WORDS		1045	30	0004	3956
1373	0		ALO	−0004		7-8 OF		3956	15	1940	1095
1374	0		STL	+0008		OUTPUT CD		1095	20	0984	1837
1375	0		SLT	0002				1837	35	0002	1243
1376	0		AUP	−0002				1243	10	1938	1293
1377	0		SRT	0004				1293	30	0004	3903
1378	0		AUP	−0001				3903	10	1937	1841
1379	0		SLT	0002				1841	35	0002	1397
1380	0		STU	+0007				1397	21	0983	3186
1381	0		PCH	+0001		PCH 5/CD		3186	71	0977	3177
1382	0		RAM	+0001		UP CARD		3177	67	0977	1581
1383	0		ALO	1IXXX		NUMBER		1581	15	0550	1808
1384	0		STL	+0001				1808	20	0977	1230
1385	0		RAU	RSET	+			1230	60	1483	3761
1386	1										
1387	0	PEXIT	RAL	PCHEX	LIT	TEST LITRL		0776	65	1630	1285
1388	0	LIT	NZE	TRYIT		SYMBL NO		1285	45	1138	1539
1389	0		RAU	ITAGW	HLD5C	+ '+U		1539	60	1451	1858
1390	3	HLD5C	NZU	ITAG	READC			1858	44	3811	1950
1391	3	HLD5C	NZU	ITAG	TSFUL			1858	44	3811	1862
1392	0	TSFUL	LDD	TRANS		TEST FULL		1862	69	0640	1343
1393	0		BD2		READC	SYMBL TABL		1343	92	0696	1950
1394	0		LDD	PEXIT				0696	69	0776	1429
1395	0		STD	SET5		SUSPEND		1429	24	0772	3775
1396	0		LDD	RSLTT		5/CD PUNCH		3775	69	1028	1831
1397	0		STD	HLD5C	READC			1831	24	1858	1950
1398	0	RSLTT	NZU	ITAG	TSFUL			1028	44	3811	1862
1399	0	ITAG	STL	WHERE				3811	20	1416	1869
1400	0		BMI	SECND	HIRST			1869	46	1122	1423
1401	0	SECND	LDD	SAVED				1122	69	3825	1078
1402	0		STD	OPREG				1078	24	0643	0796
1403	0		STL	ITAGW	PEXIT			0796	20	1451	0776
1404	0	HIRST	RSU	8003				1423	61	8003	1881
1405	0		STU	ITAGW				1881	21	1451	1604
1406	0		RAU	P0007				1604	60	1983	1887
1407	0		SLT	0002				1887	35	0002	1393
1408	0		RAL	8003				1393	65	8003	1902
1409	0		SRT	0006				1902	30	0006	3167
1410	0		STL	SAVED				3167	20	3825	1128
1411	0		RAM	ITAGW				1128	67	1451	1908
1412	0		SLT	0002				1908	35	0002	1466
1413	0		AML	8001				1466	17	8001	1473
1414	0		SLT	0003				1473	35	0003	1931
1415	0		AUP	NZSYM				1931	10	1384	1789
1416	0		STU	1954				1789	21	1954	3108
1417	0		RAU	1953				3108	60	1953	3158
1418	0		STD	1952				3158	24	1952	3758
1419	0		STL	1951				3758	20	1951	1804
1420	0		LDD		SUBR4			1804	69	3808	0850
1421	0		00	0000	/0001			3808	00	0000	0091
1422	0	/0001	LDD	1959	SET58			0091	69	1959	3112
1423	0	SET58	STD	1958	1998			3112	24	1958	1998
1424	0	/0002	LDD	1959	SET58			0092	69	1959	3112
1425	0	/0003	NOP	0000	1998			0093	00	0000	1998
1426	0	/0101	NOP	0000	1998			0191	00	0000	1998
1427	0	TRYIT	RAU	ITAGW				1138	60	1451	3858
1428	0		NZU		LITC		NOTE	3858	44	3861	3162
1429	0		BMI	SECND				3861	46	1122	1516
1430	0		LDD	P0007				1516	69	1983	3786
1431	0		STD	ABSOL				3786	24	1839	0242
1432	0		LDD	P0002				0242	69	1978	3131
1433	0		STD	LITSM				3131	24	1434	1987
1434	0		STD	WHERE	HIRST			1987	24	1416	1423
1435	1										
1436	0	LITC	RAU	WHERE				3162	60	1416	1371
1437	0		STL	P0002				1371	20	1978	3181
1438	0		NZU	MOVED				3181	44	1335	3836
1439	0		RAL	1952	ORNRY			3836	65	1952	3908
1440	0	MOVED	LDD	ABSOL		TRSFR DATA		1335	69	1839	0292
1441	0		STD	P0007		TO NORMAL		0292	24	1983	3886
1442	0		RAL	LITSM		AREA		3886	65	1434	1889
1443	0		STU	WHERE	ORNRY			1889	21	1416	3908
1444	0	ORNRY	SRT	0006		TEST NEG M		3908	30	0006	1523
1445	0		SLO	ALFM				1523	16	0826	3781
1446	0		NZE	H8X				3781	45	1484	1385
1447	0		RAL	H88	ST88			1385	65	1238	1443
1448	0	H8X	RAL	H8XXX	ST88		NOTE	1484	65	0858	1443
1449	0	ST88	AUP	DDRMT		DRUM PAKED		1443	10	0694	1149
1450	0		NZU		STLIT			1149	44	3953	1854
1451	0		ALO	87NTH	STLIT			3953	15	0494	1854
1452	0	STLIT	STL	P0010				1854	20	1986	1989
1453	0		RAL	P0009				1989	65	1985	3139
1454	0		ALO	1IXXX				3139	15	0550	3958
1455	0		STL	P0009				3958	20	1985	1288
1456	0		STU	P0001				1288	21	1977	1280

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1457	0		RAL	P0007			1280	65	1983	3137	
1458	0		LDD	TRAN1			3137	69	1140	1493	
1459	0		SDA	P0008			1493	22	1984	3187	
1460	0		RAU	P0005			3187	60	1981	1435	
1461	0		LDD		COMPR		1435	69	1338	0099	
1462	0		RAU	P0006			1338	60	1982	3787	
1463	0		LDD	STP7			3787	69	1240	1543	
1464	0		STD	XXXX2	SCT		1543	24	1962	1616	
1465	0	STP7	STU	PCHEX			1240	21	1630	1533	
1466	0		STD	P0003			1533	24	1979	1132	
1467	0		LDD	LTALF			1132	69	1485	1388	
1468	0		STD	P0004			1388	24	1980	3148	
1469			RAU	SET5		ARE WE IN	3148	60	0772	3198	
1470			SUP	BRNCH		5CD MODE	3198	11	3783	3848	
1470			NZU	PUNCH			3848	44	1852	3899	
1470			LDD	RSET5			3899	69	3949	3999	
1470			STD	SET5	PUNCH		3999	24	0772	1852	
1470		RSET5	LDD	BRNCH	RSTOR		3949	69	3783	3798	
1470		RSTOR	STD	SET5	5/CD		3798	24	0772	3127	
1471	0	+MAX	STL	+0006	*0001		1044	20	0982	0045	
1472	0	+AMP1	STL	+0007	*0001		3906	20	0983	0045	
1473	0	LOCM	02	0959	0001		1093	02	0959	0001	
1474	0	LOC	HLT	0000	LOC		0646	01	0000	0646	
1475	0	SYMFL	NZU	ITAG	READC		3102	44	3811	1950	
1476	0	H88	88	0000	0000		1238	88	0000	0000	
1477	0	ALFM	ALF	M	SOAP2		0826	00	0000	0074	
1478	0	LTALF	ALF	LIT	SOAP2		1485	73	6983	0000	
1479	0	TRAN1	09	0000	9991		1140	09	0000	9991	
1480	0	NZSYM	75	8960	6000		1384	75	8960	6000	
1481	1			CONVERT DOUBLE DIGIT NUMERIC							
1482	1			WORD TO SINGLE DIGIT FORM							
1483	0	COMPR	STD	XXXX2			0099	24	1962	1816	
1484	0		STL	P0007	SCT		1816	20	1983	1616	
1485	0	SCT	SCT	0000	CKZER		1616	36	0000	3189	
1486	0	CKZER	NZU		XXXX2		3189	44	1593	1962	
1487	0		SLT	0001			1593	35	0001	1249	+
1488	0		RAL	8003			1249	65	8003	1810	
1489	0		AUP	P0007			1810	10	1983	3837	
1490	0		SLT	0001			3837	35	0001	1793	
1491	0		STU	P0007			1793	21	1983	3936	
1492	0		RAU	8002	CKZER		3936	60	8002	3189	
1493	0		HED								
1494	1										
1495	0	SETCC	RAU	READC	SUB10	SUDO EXIT	3152	60	1950	1600	
1496	1										
1497	0	1800	LDD	READC	SUB22	MANUAL PST	1800	69	1950	1904	
1498	1										
1499	0	1900	LDD	READC	SUB14	MANUAL PAT	1900	69	1950	3104	
1500	1										
1501	0	T0004	STD	TYP3A	T0001	SET TESTWD	1993	24	0680	1990	
1502	0	T0001	LDD		SUBR3	TYPE 0	1990	69	1843	0650	
1503	0		LDD		PROCL	650	1843	69	0846	1501	
1504	0		LDD		PROCD	COMMAND OR	0846	69	1299	1801	
1505	0		LDD	PUNCH	PROCI	CONSTANTS	1299	69	1852	3951	
1506	1										
1507	1										
1508	0	T0002	RAU	1954			1991	60	1954	1860	
1509	0		SUP	LTALF			1860	11	1485	3789	
1510	0		NZU	SETCC	CDNOD		3789	44	3152	1094	
1511	0	CDNOD	RAL	P0009			1094	65	1985	3839	
1512	0		SLO	1IXXX			3839	16	0550	1910	
1513	0		STL	P0009	READC		1910	20	1985	1950	
1514	1										
1515	1										
1516	1			MULTIPASS CONTROL SECTION							
1517	1										
1518	0	TEST	RAL	8002		IF ZERO	3803	65	8002	3911	NOTE
1519	0		SLT	0003		ENTER	3911	35	0003	1919	
1520	0		NZU		8001	MULTIPASS	1919	44	1573	8001	
1521	0		LDD	HHOLD		RESTORE	1573	69	0674	3777	
1522	0		STD	0000H		CARD NUMBR	3777	24	0668	1421	NOTE
1523	0		LDD	NHOLD		AND	1421	69	0491	1144	
1524	0		STD	P0009		HEADING	1144	24	1985	1438	
1525	0		RAL	8000		PST IF	1438	65	8000	1145	
1526	0		BMI		ZERO	8000 IS	1145	46	0448	1349	
1527	0		LDD	ZERO	SUB22	MINUS	0448	69	1349	1904	
1528	1										
1529	0	ZERO	LDD	1998X	SUB16	ZERO SYM T	1349	69	3752	3753	
1530	1										
1531	0	FIRST	LDD	8D888		ALTER	1353	69	3110	1863	
1532	0		STD	TRANS		CONTROL	1863	24	0640	1893	
1533	0		LDD	INTOP		FOR CARDS	1893	69	0896	1399	
1534	0		STD	INTOX	TEST	2 THRU X	1399	24	0652	3803	
1535	1										
1536	0	00002	RAU	READC	SUB10	COMMENTS	1186	60	1950	1600	
1537	0	00003	NOP	0000	00005	RELOCATE	1187	00	0000	1189	
1538	0	00004	STD	TYP3A	00001	SET TESTWD	1188	24	0680	1185	
1539	0	00001	RAL	-1954		TYPE 0	1185	65	1954	3160	
1540	0		SLO	C0041		TEST HED	3160	16	1690	1245	
1541	0		SLT	0006			1245	35	0006	3760	
1542	0		NZU		0808		3760	44	1913	0808	

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1543	0		RAU	1951			1913	60	1951	3810	
1544	0		ALO	05	LOOK		3810	15	3113	3767	
1545	0	00005	RAU	1952		CONTROL	1189	60	1952	3860	
1546	0	00006	ALO	06	LOOK	EXITS FOR	3860	15	3163	3767	
1547	0	00006	RAU	1953		EXAMINING	1190	60	1953	3910	
1548	0	00007	ALO	07	LOOK	LOC DATA	3910	15	3763	3767	
1549	0	00007	RAL	P0010		AND INST	1191	65	1986	1891	
1550	0		STU	TYP3A		ZRO TESTWD	1891	21	0680	1583	
1551	0		ALO	8AND8		ADDRESSES	1583	15	3986	3141	
1552	0		STL	P0010	PUNCH		3141	20	1986	1852	
1553	0	LOOK	NZU		8001	BLANK	3767	44	1471	8001	
1554	0		STD	EXITX			1471	24	0653	3960	
1555	0		LDD	011			3960	69	3813	1866	
1556	0		SDA	011			1866	22	3813	1916	
1557	0		RAU	8003			1916	60	8003	1823	NOTE
1558	0		LDD	08	SUBR4		1823	69	0876	0850	
1559	0	00008	NOP	0000	EXITX		1192	00	0000	0653	
1560	0	00009	NOP	0000	EXITX	REGIONAL	1193	00	0000	0653	
1561	0	00010	LDD	011	SUBR6	SYMBOLIC	1194	69	3813	1050	
1562	0	00108	LDD	011	SUBR6		1292	69	3813	1050	
1563	0	00012	NOP	0000	EXITX	UNDEFINED	1196	00	0000	0653	
1564	0	00011	RAL	EQUIV		DEFINED OR	1195	65	1013	3817	
1565	0		SLT	0004		PREVIOUSLY	3817	35	0004	3827	
1566	0		AUP	EXITX		ESTABLISHD	3827	10	0653	3961	
1567	0		AUP	8IXXX			3961	10	0144	1449	
1568	0		LDD	P0007	8003		1449	69	1983	8003	
1569	0	00013	LDD	P0008		CAUSE DRUM	1197	69	1984	3887	
1570	0		SDA	P0008		EQUIVALENT	3887	22	1984	3937	
1571	0		RSL	3000I	FIX	TO BE PCHD	3937	66	1290	1295	
1572	0	00014	SDA	P0007		AS L D OR	1198	22	1983	3987	
1573	0		RSL	0200I	FIX	I AND 5 6	3987	66	0824	1295	
1574	0	00015	SRT	0004		OR 7 TO BE	1199	30	0004	3762	
1575	0		SIA	P0007		PUNCHED	3762	23	1983	1488	
1576	0		RSL	0010I	FIX	ACCORDNGLY	1488	66	0551	1295	
1577	0	FIX	ALO	P0008			1295	15	1984	3889	
1578	0		STL	P0008	EXITX		3889	20	1984	0653	
1579	1										NOTE
1580	0	8D888	08	0000	8880		3110	08	0000	8880	
1581	0	INTOP	ALO	TORGP	TEST		0896	15	0299	3803	
1582	0	1998X	NOP	0800	1998		3752	00	0800	1998	
1583	0	05	NOP	0008	00005	CONSTANTS	3113	00	0008	1189	
1584	0	06	NOP	0089	00006		3163	00	0089	1190	
1585	0	07	NOP	0099	00007		3763	00	0099	1191	
1586	0	8AND8	00	8008	0000		3986	00	8008	0000	
1587	0	08	NOP	0000	00008		0876	00	0000	1192	
1588	0	011	NOP	0000	00011	ERASEABLE	3813	00	0000	1195	
1589	1										
1590	1			RELOCATE ROUTINE							
1591	1										
1592	0		HED	T							
1593	0	T0003	LDD		SUBR3	PROCESS OP	1992	69	1345	0650	
1594	0		RAL	1951		IS L FIXED	1345	65	1951	3812	
1595	0		SLT	0002			3812	35	0002	1969	
1596	0		NZU		REL		1969	44	1873	0974	
1597	0		RAU	1957		FIXED L	1873	60	1957	3862	
1598	0		SUP	4000I		DRUM CORE	3862	11	0836	3191	
1599	0		BMI		FC		3191	46	1244	1395	
1600	0		AUP	8001	RES	FIXED DRUM	1244	10	8001	3802	
1601	0	FC	RAL	1957	SETL	+ '+U	1395	65	1957	3912	
1602	0	SR	RAL	1951	SETL		3852	65	1951	3912	
1603	0	SETL	SLT	0004			3912	35	0004	1923	
1604	0		LDD	P0008			1923	69	1984	1538	
1605	0		SDA	P0008	PROD		1538	22	1984	1788	
1606	0	REL	RAU	1957		DRUM CORE	0974	60	1957	3962	
1607	0		SUP	4000I			3962	11	0836	3791	
1608	0		BMI		RC		3791	46	1294	1445	
1609	0		AUP	DDIFF		RELOCATE	1294	10	1447	3902	
1610	0		BMI		BL	DRUM ADDR	3902	46	3863	3913	
1611	0		AUP	4000I	RES		3863	10	0836	3802	
1612	0	RES	STU	1951			3802	21	1951	3154	
1613	0		STL	W 2			3154	20	1962	3116	
1614	0		LDD	SR	SUBR2		3116	69	3852	1402	
1615	0	RC	RAL	1957		RELOCATE	1445	65	1957	3963	
1616	0		ALO	CDIFF		CORE	3963	15	3166	1521	
1617	0		SLO	9060			1521	16	1024	1479	
1618	0		BMI		BL		1479	46	1182	3913	
1619	0		ALO	8001	SETL		1182	15	8001	3912	
1620	0	BL	RAU	PROD	SUB12	BLANK L	3913	60	1788	3800	
1621	1										
1622	0		REG	J0944	0944	D TYPE 2					
1623	0		REG	G0941	0941						
1624	1										
1625	0	PROD	LDD	PROI		SET D EXIT	1788	69	3841	1344	
1626	0		STD	EXITX			1344	24	0653	3114	
1627	0		RAU	1952		WHAT IS D	3114	60	1952	3164	
1628	0		LDD	H	SUBR4		3164	69	3867	0850	
1629	0	H0001	RAL	1958		RELOCATE	0902	65	1958	3764	
1630	0		SLO	4000I		D OR C	3764	16	0836	3891	
1631	0		BMI	1564	1563		3891	46	1564	1563	
1632	0	H0002	SRT	0008		C D OR F	0903	30	0008	1571	
1633	0		AUP	1500	8003		1571	10	1074	8003	

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1634	0	1563	RAL	CDIFF	CDD	C	1563	65	3166	1821
1635	0	1564	RAL	DDIFF	CDD	D	1564	65	1447	1821
1636	0	1566	RAL	1958	J0001	F	1566	65	1958	0944
1637	0	CDD	ALO	1958	J0001		1821	15	1958	0944
1638	0	H0003	NOP	0000	G0003	SYMBOLIC	0904	00	0000	0943
1639	0	H0101	NOP	0000	G0101		1002	00	0000	1041
1640	1									
1641	0		REG	J0960	0960	I				
1642	0		REG	F0955	0955					
1643	1									
1644	0	PROI	LDD	PUNCH		SET I EXIT	3841	69	1852	3814
1645	0		STD	EXITX			3814	24	0653	3864
1646	0		RAU	1953		WHAT IS I	3864	60	1953	3914
1647	0		LDD	M	SUBR4		3914	69	3917	0850
1648	0	M0001	RAL	1959		RELOCATE	0905	65	1959	3964
1649	0		SLO	4000I		D OR C	3964	16	0836	3941
1650	0		BMI	1568	1567		3941	46	1568	1567
1651	0	M0002	SRT	0008		C D OR F	0906	30	0008	3875
1652	0		AUP	1504	8003		3875	10	1178	8003
1653	0	1567	RAL	CDIFF	CDI	C	1567	65	3166	1871
1654	0	1568	RAL	DDIFF	CDI	D	1568	65	1447	1871
1655	0	1570	RAL	1959	J0001	F	1570	65	1959	0960
1656	0	CDI	ALO	1959	J0001		1871	15	1959	0960
1657	0	M0003	NOP	0000	F0003	SYMBOLIC	0907	00	0000	0957
1658	0	M0101	NOP	0000	F0101		1005	00	0000	1055
1659	1									
1660	0	9060	00	0000	9060		1024	00	0000	9060
1661	0	H	00	0000	H0001		3867	00	0000	0902
1662	0	1500	00	0000	1500		1074	00	0000	1500
1663	0	M	00	0000	M0001		3917	00	0000	0905
1664	0	1504	00	0000	1504		1178	00	0000	1504
1665	0	XXXX1	01	0000	XXXX1	ERASEABLE	1961	01	0000	1961
1666	0		HED							
1667	1									NOTE
1668	1			BOP ROUTINE						
1669	1									
1670	0	0814	LDD	SETCC	SUB16		0814	69	3152	3753	NOTE
1671	1									
1672	1			BLR ROUTINE						
1673	1									
1674	0	0801	RAL	1959	BLR		0801	65	1959	3766
1675	0	BLR	LDD	ZEROO	BLR1		3766	69	3119	1172
1676	0	ZEROO	00	0000	0000		3119	00	0000	0000
1677	0	BLR1	STD	W 2			1172	24	1962	3816
1678	0		SLO	1958			3816	16	1958	3866
1679	0		AUP	8001			3866	10	8001	1973
1680	0		SUP	4000I			1973	11	0836	3991
1681	0		BMI		SETCC		3991	46	1394	3152
1682	0		AUP	8001			1394	10	8001	3952
1683	0		LDD	SETCC	SUBR2		3952	69	3152	1402
1684	1									
1685	1			RBR ROUTINE						
1686	1									
1687	0	0811	RAU	DDIFF			0811	60	1447	3754
1688	0		ALO	1959	BLR		3754	15	1959	3766
1689	1									
1690	1			DLA ROUTINE						
1691	1									
1692	0	0815	LDD	ITS50		DLA	0815	69	1368	1921
1693	0		STD	10R50		ROUTINE	1921	24	0988	0342
1694	0		LDD	24			0342	69	1495	0498	NOTE
1695	0		STD	56 2		MODFY	0498	24	1510	3916
1696	0		LDD	35		SUBR2	3916	69	3169	1222
1697	0		STD	78 2			1222	24	1560	3966
1698	0		LDD	TPR 2			3966	69	1819	1272
1699	0		STD	EITHR			1272	24	1234	1838
1700	0		LDD	PREEX			1838	69	0392	1545
1701	0		STD	SETCC	0802		1545	24	3152	0802
1702	0	PREEX	LDD	13			0392	69	1595	0548
1703	0		STD	56 2		RESET	0548	24	1510	3967
1704	0		LDD	08		EXITS	3967	69	1020	3123
1705	0		STD	78 2			3123	24	1560	1418
1706	0		LDD	964			1418	69	1971	1124
1707	0		STD	EITHR			1124	24	1234	1888	NOTE
1708	0		LDD	SLO1I			1888	69	0442	1795
1709	0		STD	10R50			1795	24	0988	0492
1710	0		LDD	PCHA			0492	69	1845	0598
1711	0		STD	SETCC	8001		0598	24	3152	8001
1712	0	ITS50	SLO	50XXX	NEXT2		1368	16	3850	1506
1713	0	24	RAU	SA 2	SU 2		1495	60	1022	3117
1714	0	35	RAU	SA 2			3169	60	1022	3877
1715	0		AUP	1DXXX	SU 2		3877	10	0554	3117
1716	0	08	RAU	SA 2	178 2		1020	60	1022	1927
1717	0	964	RAU	SA 2	EITH2		1971	60	1022	1827
1718	0	SLO1I	SLO	1IXXX	NEXT2		0442	16	0550	1506
1719	0	PCHA	RAU	READC	SUB10		1845	60	1950	1600
1720	0	13	RAU	SA 2	SZ 2		1595	60	1022	1877
1721	1									
1722	1			BLA ROUTINE						
1723	1									
1724	0	0802	RAL	1959			0802	65	1959	1468

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1725	0		STU	DRUMT			1468	21	1453	1518
1726	0		STD	DDRMT			1518	24	0694	1497
1727	0		LDD	(0010	BLR1		1497	69	0559	1172
1728	1									
1729	1			REG ROUTINE						
1730	1									
1731	0		HED	R						
1732	0	0803	RAU	1952			0803	60	1952	1618
1733	0		LDD		STOR9		1618	69	3121	0349
1734	0		ALO	ST			3121	15	1174	1529
1735	0		AUP	1958			1529	10	1958	1818
1736	0		AUP	H9XXX	8002	ADD DEF 9	1818	10	1403	8002
1737	0	8002	STU	9999	0801		8002	21	9999	0801
1738	0	ST	STU	1650	0801	STORE REG	1174	21	1650	0801
1739	0		HED							
1740	1									
1741	1			EQU REQ AND SYN ROUTINE						
1742	1									
1743	0		HED	Z						
1744	0		EQU	E	1958					
1745	0	0804	LDD	H8XXX	BOTH		0804	69	0858	1868
1746	0	0805	LDD	H9XXX	BOTH		0805	69	1403	1868
1747	0	BOTH	STD	TAG			1868	24	3171	1224
1748	0		RAU	1953		WHAT IS I	1224	60	1953	1918
1749	0		LDD	Z	SUBR4	ABSOLUTE	1918	69	3771	0850
1750	0	Z0001	RAL	1959	Y0001	ABSOLUTE	0917	65	1959	0915
1751	0	Z0002	ALO	Y	SUBR9		0918	15	3821	1500
1752	0	Y0001	STL	E			0915	20	1958	3118
1753	0		STD	1959	TD		3118	24	1959	3168
1754	0	Y0002	RAL	P0010	BP	REG ERROR	0916	65	1986	0592
1755	0	Z0003	LDD	W	SUBR6	SYMBOLIC	0919	69	1322	1050
1756	0	Z0101	LDD	W	SUBR6		1017	69	1322	1050
1757	0	W0001	RAL	EQUIV	Y0001	S DEFINED	0920	65	1013	0915
1758	0	W0002	RAL	P0010	BP	S UNDEFIND	0921	65	1986	0592
1759	1									
1760	0	TD	RAU	1952		HEAD D	3168	60	1952	3768
1761	0		LDD		SUB15	AND EQUATE	3768	69	3871	0621
1762	0		LDD	V	SUBR6	TO E	3871	69	1274	1050
1763	0	V0001	ALO	E	SD		0910	15	1958	3818
1764	0	V0002	ALO	E		SYMB UND	0911	15	1958	3868
1765	0		STL	XXXX1			3868	20	1961	3918
1766	0		RAL	1952		TEST LIT	3918	65	1952	3968
1767	0		SLT	0002		SYMBOL	3968	35	0002	3925
1768	0		NZU	OK			3925	44	1829	1330
1769	0		STL	PCHEX		SET TESTW	1330	20	1630	1833
1770	0		RAL	E		SET L	1833	65	1958	3769
1771	0		LDD	P0007			3769	69	1983	1988
1772	0		SLT	0004			1988	35	0004	1499
1773	0		SDA	P0007			1499	22	1983	3138
1774	0		LDD	1			3138	69	0642	1895
1775	0		STD	READC	OK	SET RETURN	1895	24	1950	1829
1776	0	OK	RAL	XXXX1			1829	65	1961	3819
1777	0		AUP	S 6	SD		3819	10	0764	3818
1778	0	1	LDD	RDCD*	PEXIT	GO TO	0642	69	1945	0648
1779	0		STD	READC	PEXIT	PCH LIT	0648	24	1950	0776
1780	0	SD	LDD	TT	SUBR7		3818	69	3921	1400
1781	0	RDCD*	RCD	1999	1998		1945	70	1999	1998
1782	1									
1783	0	TT	LDD	TAG		TEST TAG	3921	69	3171	1324
1784	0		BDO	SETCC	0801		1324	90	3152	0801
1785	1									
1786	0	0810	LDD	H8XXX			0810	69	0858	3869
1787	0		STD	TAG		ROUTINE	3869	24	3171	1374
1788	0		RAL	1959		IS I	1374	65	1959	3919
1789	0		SLO	40001		DRUM 0 COR	3919	16	0836	0692
1790	0		BMI	D			0692	46	1995	0996
1791	0		ALO	CDIFF	CD		0996	15	3166	3971
1792	0	D	ALO	DDIFF	CD		1995	15	1447	3971
1793	0	CD	ALO	40001	Y0001		3971	15	0836	0915
1794	1									
1795	0	BP	ALO	88		BY PASS	0592	15	3145	1549
1796	0		STL	P0010	SETCC		1549	20	1986	3152
1797	1									
1798	0	Z	00	0000	Z0001	CONSTANTS	3771	00	0000	0917
1799	0	Y	NOP	1959	Y0001		3821	00	1959	0915
1800	0	W	00	0099	W0001		1322	00	0099	0920
1801	0	V	00	0089	V0001		1274	00	0089	0910
1802	0	88	00	8000	0000		3145	00	8000	0000
1803	1									
1804	0	TAG	01	0000	TAG	ERASEABLE	3171	01	0000	3171
1805	0		HED							
1806	1									
1807	1			ALF ROUTINE						
1808	1									
1809	0	0806	LDD		PROCL		0806	69	3969	1501
1810	0		LDD	1952			3969	69	1952	1070
1811	0		STD	P0007			1070	24	1983	3188
1812	0		RAL	1953			3188	65	1953	1120
1813	0		NZE	PUNCH			1120	45	1852	3975
1814	0		LDD	SOAP2		BY	3975	69	1228	3831
1815	0		STD	P0003	PUNCH	SOAP2	3831	24	1979	1852

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1816	1									
1817	0	SOAP2	ALF	SOAP2	SOAP2	CONSTANT	1228	82	7661	7792
1818	1									
1819	1			PAT ROUTINE						
1820	1									
1821	0		HED	P						
1822	0	SUB14	STD	EXITX		STORE EXIT	3104	24	0653	1170
1823	0		RAU	A1		SET FOR	1170	60	3173	3927
1824	0		ALO	RS1		1ST HALF	3927	15	1380	1535
1825	0		LDD		AVTB		1535	69	3788	0792
1826	0		RAU	A2		SET FOR	3788	60	0842	1547
1827	0		ALO	RS2		2ND HALF	1547	15	3804	1220
1828	0		LDD	EXITX	AVTB	OF DRUM	1220	69	0653	0792
1829	0	AVTB	STD	EXIT		STORE EXIT	0792	24	3195	0698
1830	0		LDD	85TH		SET PUNCH	0698	69	0986	3939
1831	0		STD	P0010		8	3939	24	1986	3989
1832	0		STU	XXXX1			3989	21	1961	1270
1833	0		AUP	35D			1270	10	3773	3977
1834	0		STU	BDMAX			3977	21	1232	1585
1835	0		AUP	450D			1585	10	3838	1943
1836	0		STU	AMAX			1943	21	0798	3854
1837	0		AUP	15D			3854	10	1320	0976
1838	0		STU	AMP5			0976	21	1430	1883	NOTE
1839	0		SUP	8003	LOOP		1883	11	8003	0892
1840	0	LOOP	AUP	C1	8001		0892	10	3795	8001
1841	0	8001	STL	9999	NEXT	SET LOCAT	8001	20	9999	3904
1842	0	NEXT	SUP	TW1			3904	11	1370	1026
1843	0		NZU		SRS		1026	44	1879	1480
1844	0		AUP	C2			1879	10	1282	3888
1845	0		ALO	C3	8003		3888	15	0992	8003	---0+
1846	0	SRS	STL	XXXX2		SAVE RS	1480	20	1962	1420
1847	0		RAU	C4			1420	60	3823	1278
1848	0		ALO	XXXX1	8002		1278	15	1961	8002
1849	0	8002	LDD	9998	8003		8002	69	9998	8003
1850	0	8003	STD	9997	TP		8003	24	9997	3954
1851	0	TP	SUP	TW2			3954	11	1470	1076
1852	0		NZU		PUN		1076	44	1929	1530
1853	0		AUP	C5			1929	10	1332	3938
1854	0		ALO	1DXXX	8002		3938	15	0554	8002
1855	0	PUN	PCH	P0001			1530	71	1977	1328
1856	0		RAM	8002			1328	67	8002	1988
1857	0		SLO	BDMAX			3988	16	1232	1340
1858	0		NZE		TSTEN		1340	45	1444	3845
1859	0		ALO	8001			1444	15	8001	1520
1860	0		ALO	5DXXX	STLXX		1520	15	3873	1378
1861	0	TSTEN	ALO	8001			3845	15	8001	1620
1862	0		SLO	AMAX			1620	16	0798	1820
1863	0		NZE		EXIT		1820	45	1424	3195
1864	0		ALO	AMP5			1424	15	1430	1835
1865	0		AUP	BDMAX			1835	10	1232	1390
1866	0		AUP	50D 2			1390	10	3959	1870
1867	0		STU	BDMAX	STLXX		1870	21	1232	1378
1868	0	STLXX	STL	XXXX1			1378	20	1961	1920
1869	0		RAL	XXXX2			1920	65	1962	1970
1870	0		SLO	C7	LOOP		1970	16	3923	0892
1871	1									
1872	0	A1	LDD	0000	8003		3173	69	0000	8003
1873	0	A2	LDD	0004	8003		0842	69	0004	8003
1874	0	RS1	00	0000	0450		1380	00	0000	0450
1875	0	RS2	00	2000	2450		3804	00	2000	2450
1876	0	ZP1	STU	P0001	NXT		3120	21	1977	1830
1877	0	ZP9	STU	P0009	NXT		3170	21	1985	1830
1878	0	ZP10	STU	P0010	NXT		3770	21	1986	1830
1879	0	C1	STL	P0001	NEXT		3795	20	1977	3904
1880	0	C2	STL	P0009	NEXT		1282	20	1985	3904
1881	0	C3	00	0500	0500		0992	00	0500	0500
1882	0	C4	STD	P0002	TP		3823	24	1978	3954
1883	0	C5	STD	P0010	TP		1332	24	1986	3954
1884	0	C7	00	1499	1499		3923	00	1499	1499
1885	0	TW1	STL	P0007	NEXT		1370	20	1983	3904
1886	0	TW2	STD	P0008	TP		1470	24	1984	3954
1887	0	35D	00	0035	0000		3773	00	0035	0000	NOTE
1888	0	450D	00	0450	0000		3838	00	0450	0000
1889	0	15D	00	0015	0000		1320	00	0015	0000
1890	0	5DXXX	00	0005	0000		3873	00	0005	0000
1891	0	85TH	00	0080	0000		0986	00	0080	0000
1892	0		HED							
1893	1			RDR ROUTINE						
1894	1									
1895	0	0813	RAU	8002		ZERO 80023	0813	60	8002	1372
1896	0		LDD	SETCC	UNRAV		1372	69	3152	3820
1897	0	UNRAV	STD	ZZZZ1		STORE EXIT	3820	24	1640	3143
1898	0		STU	XXXX1			3143	21	1961	3870
1899	0		ALO	I2	INCRM	GET START	3870	15	3973	1428
1900	0	INCRM	STL	ZZZZ2		STORE K	1428	20	1641	1494
1901	0		LDD		SUBR1	TO AVAIL	1494	69	1597	3920
1902	0		RAL	ZZZZ2			1597	65	1641	3895
1903	0		SLO	I99		ARE WE	3895	16	0848	3970
1904	0		NZE		ZZZZ1	DONE	3970	45	1474	1640
1905	0		ALO	8001			1474	15	8001	3881
1906	0		ALO		ASTRK		3881	15	1534	1440

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1907	0			00	0050	0050		1534	00	0050	0050
1908	0	ASTRK	AUP	XXXX1	INCRM		1440	10	1961	1428
1909	0	I99	00	0450	0489		0848	00	0450	0489
1910	0	I2	00	0000	0039		3973	00	0000	0039
1911	1									
1912	1									
1913	1			TAP ROUTINE						
1914	1									
1915	0		HED	)						
1915		0817	LDD	TRAN1		COMMENTS	0817	69	1140	3898
1915			STD	P0008			3898	24	1984	3948
1915			RAU	00817			3948	60	1948	3998
1915			ALO	H8XXX	SUB10		3998	15	0858	1600
1916	0	00817	RAU		SET	TEST 1ST	1948	60	1422	1478
1917	0		RAL	1951		TAP RCD VS	1422	65	1951	1472
1918	0		SLO	9050		CARD	1472	16	9050	3129
1919	0		NZE	PASS	INIT	NO YES	3129	45	1382	1933
1920	0	SETBL	SET	9050		TRSFR TAPE	1522	27	9050	1528
1921	0		SIB	1951	1998	TO CD AREA	1528	28	1951	1998
1922	0	SET	SET	9050		READ TAPE	1478	27	9050	3133
1923	0		RTN	8012	NTS		3133	04	8012	1490
1924	0	NTS	NTS	8001			1490	25	8001	3945	NOTE
1925	0		NEF		EXIT		3945	54	1799	1572
1926	0		NZE		HALT		1799	45	1822	1872
1927	0		SLT	0001		REREAD	1822	35	0001	3179	NOTE
1928	0		BST	8012	SET	ROUTINE	3179	57	8012	1478
1929	0	HALT	HLT	0000	9999		1872	01	0000	9999	NOTE
1930	0	INIT	LDD	COPY		FOUND	1933	69	1540	3193
1931	0		STD	READC		ROUTINE	3193	24	1950	1922
1932	0		LDD	RWIND		SET TO	1922	69	1126	3779	---0+
1933	0		STD	EXIT	SETBL	PROCESS	3779	24	1572	1522
1934	0	RWIND	RWD	8012		FINISHED	1126	55	8012	3931
1935	0		LDD	ENTR		ROUTINE	3931	69	1584	1790
1936	0		STD	EXIT	1 Z		1790	24	1572	0642	NOTE
1937	0	PASS	RAU		8001	BYPASS	1382	60	1885	8001
1938	0		RTC	8012	NTS	ROUTINE	1885	03	8012	1490
1939	0	COPY	RAL	SETBL	SET		1540	65	1522	1478
1940	0	ENTR	NOP	0000	00817		1584	00	0000	1948
1941	0	EXIT	NOP	0000	00817		1572	00	0000	1948
1942	0		HED							
1943	1									
1944	1			PST ROUTINE							NOTE
1945	1									
1946	0	0812	RAU	1800	SUB10		0812	60	1800	1600
1947	1									
1948	1			HED ROUTINE						
1949	1									
1950	0	0808	RAL	1952			0808	65	1952	1972
1951	0		SRT	0008		HEADING	1972	30	0008	1042
1952	0		STL	0000H	SETCC	CHARACTER	1042	20	0668	3152
1953	1										NOTE
1954	0	0000H	01	0000	0000H	ERASEABLE	0668	01	0000	0668
1955	1									
1956	1			REL ROUTINE						
1957	1									
1958	0		HED	M						
1959	0	0809	RAL	1952			0809	65	1952	3122
1960	0		NZE		SDD	DRUM	3122	45	1176	1828
1961	0		RAL	1958	SDD	AND	1176	65	1958	1828
1962	0	SDD	STL	DDIFF		CORE	1828	20	1447	3172
1963	0		RAL	1953		DELTAS	3172	65	1953	3772	NOTE
1964	0		NZE		SCD		3772	45	1226	1878
1965	0		RAL	1959	SCD		1226	65	1959	1878
1966	0	SCD	STL	CDIFF	SETCC		1878	20	3166	3152
1967	1									
1968	0	DDIFF	01	0000	DDIFF	ERASEABLE	1447	01	0000	1447
1969	0	CDIFF	01	0000	CDIFF		3166	01	0000	3166	NOTE
1970	0		HED								NOTE
1971	1									
1972	1			SEQ ROUTINE						
1973	1									
1974	0	0816	RAU	1951			0816	60	1951	3822
1975	0		NZU		S9H		3822	44	1276	1326
1976	0		ALO	1957	STLL		1276	15	1957	3872
1977	0	S9H	RSL	1954	STLL		1326	66	1954	3872
1978	0	STLL	STL	SEQLL			3872	20	0778	3981
1979	0		RAU	1952			3981	60	1952	3922
1980	0		NZU		S9I		3922	44	1376	1426
1981	0		ALO	1958	STLD		1376	15	1958	3972
1982	0	S9I	RSL	1954	STLD		1426	66	1954	3972
1983	0	STLD	STL	SEQDD			3972	20	3865	1524
1984	0		RAU	1953			1524	60	1953	1574
1985	0		NZU		S9J		1574	44	3128	3178
1986	0		RAL	1959			3128	65	1959	1824
1987	0		SLO	9000			1824	16	3778	3183
1988	0		BMI	(	CSEQI		3183	46	1840	1890
1989	0		ALO	8001	TUVWX		1840	15	8001	1797
1990	0	TUVWX	LDD	H8XXX	S9K		1797	69	0858	1874
1991	0	S9K	STD	TCORI			1874	24	0890	3793
1992	0		STL	SEQII			3793	20	3915	1924
1993	0		RAU	1960			1924	60	1960	1974

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1994	0		SRT	0001			1974	30	0001	1432	
1995	0		SUP	8003			1432	11	8003	3140	
1996	0		NZE	NEGSQ			3140	45	1544	3995	
1997	0		RAM	1IXXX	ST1IX		3995	67	0550	3124	
1998	0	NEGSQ	RSM	1IXXX	ST1IX		1544	68	0550	3124	
1999	0	ST1IX	STL	CTRSQ	SETCC		3124	20	0990	3152	
2000	0	S9J	RSL	1954	TUVWX		3178	66	1954	1797	
2001	0	CSEQI	ALO	8001			1890	15	8001	1847	
2002	0		LDD	H9XXX	S9K		1847	69	1403	1874	
2003	0	9000	00	0000	9000		3778	00	0000	9000	
2004	1										
2005	1			TRANSFER CARD ROUTINE							
2006	1										--0+
2007	0		HED	*							
2008	0	0818	RAU		SUB10	XFR	0818	60	3174	1600	
2009	0		RAU	1952		TEST	3174	60	1952	3774	
2010	0		NZU		Y	BLANK TRSF	3774	44	3828	3878	
2011	0		STL	P0007			3828	20	1983	3190	
2012	0		LDD		PROCD	GET START	3190	69	3843	1801	
2013	0		RAL	RETN	Z	ADDRESS	3843	65	1046	3824	
2014	0	Y	RAL	TW	Z		3878	65	1482	3824	
2015	0	Z	AUP	POSIT		MUST WE	3824	10	1787	1092	
2016	0		SUP	+MIN		PCH LASTCD	1092	11	1096	3874	
2017	0		NZU		8002	NO	3874	44	3928	8002	
2018	0		STL	READC	5CD +	YES	3928	20	1950	1554	
2019	0	RETN	RSM	+0001		SET ID WD	1046	68	0977	1532	
2020	0		STL	+0001		NEGATIVE	1532	20	0977	1880	
2021	0		RAL	P0007			1880	65	1983	3790	
2022	0		SRT	0004		STOR START	3790	30	0004	3924	
2023	0		STL	+0002		ADDRESS	3924	20	0978	1582	
2024	0		RAL	I6		ZERO	1582	65	1935	3840	
2025	0		LDD		SUBR1	WDS3-8	3840	69	3893	3920	
2026	0		PCH	+0001			3893	71	0977	3978	
2027	0		RAM	+0001			3978	67	0977	1832	
2028	0		ALO	1IXXX			1832	15	0550	3974	
2029	0		STL	+0001	TW		3974	20	0977	1482	
2030	0	TW	LDD	RDCD			1482	69	1945	0898	
2031	0		STD	READC	8001	RSET EXIT	0898	24	1950	8001	
2032	0	I6	00	+0003	+0008		1935	00	0979	0984	
2033	0	+MIN	STL	+0002	*0001		1096	20	0978	0045	
2034	1										
2035	1			5CD ROUTINE							
2036	1										
2037	0	0819	RAU		SUB10	5/CD PUNCH	0819	60	1476	1600	
2038	0		RAU	1952		INSERT ID	1476	60	1952	1526	
2039	0		NZU		*	IF ANY	1526	44	3829	1930	
2040	0		RAL	1958			3829	65	1958	1576	
2041	0		SLT	0004	*		1576	35	0004	1930	
2042	0	*	AUP	1953		AND SET CD	1930	10	1953	1826	
2043	0		NZU		SKP	NO+ STRT	1826	44	3879	3130	
2044	0		ALO	1959	SIA		3879	15	1959	1876	
2045	0	SKP	ALO	1IXXX	SIA		3130	15	0550	1876	
2046	0	SIA	LDD	+0001			1876	69	0977	3180	
2047	0		SDA	ZZZZ1			3180	22	1640	3943	NOTE
2048	0		SIA	+0001			3943	23	0977	3780	
2049	0		RAU	BRNCH			3780	60	3783	3890	
2050	0		STD	SET5+	8001		3890	24	0772	8001	
2051	0	BRNCH	NZE	PEXIT	5/CD+		3783	45	0776	3127	
2052	1										
2053	0	0807	RAU	1900	SUB10		0807	60	1900	1600	
2054	1			SUB 22 PUNCH SYMBOLS AND EQUVS							NOTE
2055	1										NOTE
2056	0		HED	S							
2057	0	SUB22	STD	EXITX		SET EXIT	1904	24	0653	1926	
2058	0		RAU	P0009		SAVE CARD	1926	60	1985	3940	
2059	0		STD	XXXX1		NUMBERING	3940	24	1961	1976	
2060	0		STL	P0001		BLANK OUT	1976	20	1977	3830	
2061	0		STD	P0005		LOCN AND	3830	24	1981	1834	
2062	0		STD	P0006		COMMENTS	1834	24	1982	3135	
2063	0		STD	P0009		AND NUMBER	3135	24	1985	3990	
2064	0		LDD	9D999		SET NINES	3990	69	3993	1146	
2065	0		STD	P0008		FOR PCHING	1146	24	1984	1142	
2066	0		LDD	C0034		STORE EQU	1142	69	1683	1242	
2067	0		SIA	P0004		AS PSEUDOP	1242	23	1980	3833	
2068	0		RAL	A	SEE		3833	65	1342	1897	
2069	0	SEE	SLO	TERM		EXIT WHEN	1897	16	3126	1882	
2070	0		NZE		ENDST	FINISHED	1882	45	1392	1442	NOTE
2071	0		ALO	MORE		INCREMENT	1392	15	1246	3176	
2072	0		STL	XXXX2	8001	ST LOCATN	3176	20	1962	8001	
2073	0	8001	AUP	2000	TEST		8001	10	2000	3776	
2074	0	TEST	NZU		SEE		3776	44	3929	1897	
2075	0		SUP	8003			3929	11	8003	1492	
2076	0		STD	P0002		IF SYMBOL	1492	24	1978	1932	
2077	0		STU	P0010		IS IN TABL	1932	21	1986	1542	
2078	0		LDD		SUBR8	GET EQUIV	1542	69	1296	0441	
2079	0		RAU	ZEQUIV		ENTER	1296	60	1013	3826	
2080	0		AUP	1DXXX	LOOP	LOOP TO	3826	10	0554	3876	NOTE
2081	0	LOOP	SRT	8001		CONVERT	3876	30	0001	3883	
2082	0		SUP	8003		NUMERIC	3883	11	8003	1592	
2083	0		SRT	0001		EQUIVALENT	1592	30	0001	1849	
2084	0		AUP	8001		TO ALPHA	1849	10	8001	3926	

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2085	0		NZU	LOOP		FORM	3926	44	3876	3880	
2086	0		ALO	Y		STORE IT	3880	15	3933	1792	
2087	0		STL	P0003		FOR PUNCH	1792	20	1979	3132	
2088	0		RAU		SUB10	PUNCH A	3132	60	3185	1600	
2089	0		RAL	XXXX2	SEE		3185	65	1962	1897	
2090	1										
2091	0	ENDST	LDD	XXXX1		RESTORE	1442	69	1961	3976	
2092	0		STD	P0009	EXITX	CARD NUMBR	3976	24	1985	0653	NOTE
2093	1										
2094	0	A	AUP	S0000	TEST	CONSTANTS	1342	10	1999	3776	
2095	0	TERM	AUP	S1100	TEST		3126	10	3099	3776	
2096	0	MORE	AUP	S1101	TEST		1246	10	3100	3776	
2097	0	Y	99	9090	9090		3933	99	9090	9090	
2098	0		HED								
2099	1										
2100	1			SUB 16 INITIALIZATION							
2101	1										
2102	0	SUB16	STD	ALPHA			3753	24	3979	3182	
2103	0		BD7		INIT		3182	97	3785	1842	
2104	0		LDD	PCHWD	PART	RESET PCH	3785	69	0628	3782	
2105	0	INIT	RAL	RSET+		5/CD PCH	1842	65	1483	1892	
2106	0		STD	POSIT			1892	24	1787	1942	
2107	0		ALO	LOCM+			1942	15	1093	1947	
2108	0		STL	LOC +			1947	20	0646	1899	
2109	0		RAU	I3			1899	60	3930	3835	
2110	0		STL	P0009		ZERO NUMB	3835	20	1985	3142	
2111	0		STD	0000H		ZERO HED	3142	24	0668	3980	
2112	0		LDD		UNRAV	MAKE DRUM	3980	69	3983	3820	
2113	0		RSU	8001		AVAILABLE	3983	61	8001	3192	
2114	0		STU	SEQLL			3192	21	0778	3832	
2115	0		STD	SEQDD			3832	24	3865	3882	
2116	0		STD	SEQII			3882	24	3915	3932	
2117	0		LDD	87NTH			3932	69	0494	1997	
2118	0		STD	OPREG			1997	24	0643	1346	
2119	0		RAL	I5			1346	65	1949	3982	
2120	0		STU	DRUMT		+ '+U	3982	21	1453	1884	
2121	0		STD	DDRMT			1884	24	0694	3147	
2122	0		STD	ITAGW			3147	24	1451	1934	NOTE
2123	0		AUP	H8XXX		UNDEFINE	1934	10	0858	3134	
2124	0		STD	TCORI			3134	24	0890	1594	
2125	0		STD	°		UNDEFINE	1594	24	1578	3184	
2126	0		STD	$		SPECIAL	3184	24	1588	3792	
2127	0		STD	'		CHARACTER	3792	24	1598	3784	
2128	0		STD	¤			3784	24	1608	3834	
2129	0		STD	)			3834	24	1579	3884	
2130	0		STD	*			3884	24	1589	3842	
2131	0		STD	(			3842	24	1599	3934	
2132	0		STD	'			3934	24	1609	3984	
2133	0		STD	+			3984	24	1580	3885	
2134	0		STD	−			3885	24	1590	1794	
2135	0		STD	/			1794	24	1591	1844	NOTE
2136	0		LDD		SUBR1		1844	69	3197	3920	
2137	0		LDD	PEXIT			3197	69	0776	3935	
2138	0		STD	PCHWD	PART		3935	24	0628	3782	
2139	0	PART	STD	SET5+			3782	24	0772	3985	
2140	0		LDD	SYMFL			3985	69	3102	3892	
2141	0		STD	HLD5C			3892	24	1858	3942	
2142	0		LDD	11981		RESTORE	3942	69	1396	3149	
2143	0		STD	SYMCT		SYM COUNT	3149	24	0562	3992	
2144	0		RAL	I1		ZERO OUT	3992	65	1446	1894	
2145	0		STU	PCHEX			1894	21	1630	1994	
2146	0		LDD		SUBR1	SYMBOL TAB	1994	69	3797	3920	
2147	0		LDD	9D999		SET CON	3797	69	3993	1496	
2148	0		STD	TRANS		TROLS FOR	1496	24	0640	3144	NOTE
2149	0		LDD	INTOA		ASSEMBLY	3144	69	3847	3194	
2150	0		STD	INTOX	ALPHA		3194	24	0652	3979	
2151	1										
2152	0	I1	00	S0001	S1100		1446	00	2000	3099	
2153	0	I3	11	1111	1111		3930	11	1111	1111	
2154	0	I5	00	1621	1649		1949	00	1621	1649	
2155	0	9D999	09	0000	9990		3993	09	0000	9990	
2156	0	INTOA	ALO	TORG	8002		3847	15	3806	8002	
2157	0	RSET+	STL	+0002	*0001		1483	20	0978	0045	
2158	0	+0001	HLT	0000	9999		0977	01	0000	9999	
2159	0	11981	00	0000	0998		1396	00	0000	0998	
2160	1										
2161	0		HED								
2162	1										
2163	1			SUB 1 STORE K IN FWA TO LWA							
2164	1										
2165	0		HED	1							
2166	0	SUBR1	STD	EXITX		STORE EXIT	3920	24	0653	3794	
2167	0		STU	XXXX1		STORE K	3794	21	1961	3844	
2168	0		LDD	FWA		SET	3844	69	3897	3894	
2169	0		SDA	FWA		FWA	3894	22	3897	3944	
2170	0		SLT	0004		LWA	3944	35	0004	3994	
2171	0		SDA	XXXX2		ADDRESSES	3994	22	1962	1546	
2172	0		RAU	FWA			1546	60	3897	1596	
2173	0		ALO	XXXX1	8003		1596	15	1961	8003	
2174	0	8003	STL	9999	NEXT	STORE K	8003	20	9999	1796	
2175	0	NEXT	SUP	XXXX2		END OF	1796	11	1962	1846	

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Line	F	Label	Op	A	B	Comment				
2176	0		NZU		EXITX	LOOP TEST	1846	44	3199	0653
2177	0		AUP	8001	AUP1D		3199	10	8001	1896
2178	0	AUP1D	AUP	1DXXX	8003		1896	10	0554	8003
2179	1									
2180	0	FWA	STL	9998	NEXT	CONSTANTS	3897	20	9998	1796
2181	0		HED							
2182	1									
2183	1				LOAD AVAILABILITY TABLE SUBR					
2184	1									
2185	0	1999	RAL	1951		CALCULATE	1999	65	1951	1946
2186	0		SRT	0004		LOCATION	1946	30	0004	1996
2187	0		RAU	8002		IN AVAIL	1996	60	8002	3146
2188	0		SRT	0003		TABLE	3146	30	0003	3196
2189	0		AUP	8003			3196	10	8003	3796
2190	0		STU	ADD			3796	21	3846	3799
2191	0		SUP	8001			3799	11	8001	3896
2192	0		SRT	0007			3896	30	0007	3946
2193	0		LDD		GDA11		3946	69	3849	0347
2194	0		SLT	0001			3849	35	0001	3996
2195	0		AUP	ADD			3996	10	3846	3947
2196	0		SRT	0006			3947	30	0006	3997
2197	0		ALO	C1		NOTE	3997	15	0998	1048
2198	0		AUP	C3	8003		1048	10	1098	8003
2199	0	8003	LDD	9995	8002		8003	69	9995	8002
2200	0	8002	STD	9994	TUP		8002	24	9994	1148
2201	0	TUP	SUP	TW			1148	11	1248	1298
2202	0		NZU		READC		1298	44	1348	1950
2203	0		AUP	TWP2			1348	10	1398	1448
2204	0		ALO	1DXXX	8003		1448	15	0554	8003
2205	0	TW	LDD	1958	8002		1248	69	1958	8002
2206	0	TWP2	LDD	1960	8002		1398	69	1960	8002
2207	1									
2208	0	50XXX	00	0000	0050		3850	00	0000	0050
2209	0	90XXX	00	0000	0090		0576	00	0000	0090
2210	0	0200I	00	0000	0200		0824	00	0000	0200
2211	0	30001	00	0000	3000		1290	00	0000	3000
2212	0	40001	00	0000	4000		0836	00	0000	4000
2213	0	1DXXX	00	0001	0000		0554	00	0001	0000
2214	0	2DXXX	00	0002	0000		0860	00	0002	0000
2215	0	H8XXX	80	0000	0000		0858	80	0000	0000
2216	0	H9XXX	90	0000	0000		1403	90	0000	0000
2217	0	39991	00	0000	3999		1498	00	0000	3999
2218	0	32DXX	00	0032	0000		1548	00	0032	0000
2219	0	3DXXX	00	0003	0000		1798	00	0003	0000
2220	0	111XX	00	0000	0011		1848	00	0000	0011
2221	0	2IXXX	00	0000	0002		0856	00	0000	0002
2222	0	41XXX	00	0000	0004		0094	00	0000	0004
2223	0	8IXXX	00	0000	0008	NOTE	0144	00	0000	0008
2224	0	0040	- 99	9999	9999	TABLE END	0040	- 99	9999	9999
2225	0	0090	- 99	9999	9999	FOR	0090	- 99	9999	9999
2226	0	0140	- 99	9999	9999	AVAIL	0140	- 99	9999	9999
2227	0	0190	- 99	9999	9999	TBL	0190	- 99	9999	9999
2228	0	0240	- 99	9999	9999		0240	- 99	9999	9999
2229	0	0290	- 99	9999	9999		0290	- 99	9999	9999
2230	0	0340	- 99	9999	9999		0340	- 99	9999	9999
2231	0	0390	- 99	9999	9999		0390	- 99	9999	9999
2232	0	0440	- 99	9999	9999		0440	- 99	9999	9999
2233	0	0490	- 99	9999	9999		0490	- 99	9999	9999
2234	1									
2235	0	C1	STD	0000	TUP	CONSTANTS	0998	24	0000	1148
2236	0	C3	LDD	1952	8002		1098	69	1952	8002
2237	0	I100	00	0000	1600		1898	00	0000	1600
2238	0		PAT							

```
0000 0000000000 0450    0500 0000000000 0950    1000 0000000000 1450    1500 0000000000 1950
0001 0000000000 0451    0501 0000000000 0951    1001 0000000000 1451    1501 0000000000 1951
0002 0000000000 0452    0502 0000000000 0952    1002 0000000000 1452    1502 0000000000 1952
0003 0000000000 0453    0503 0000000000 0953    1003 0000000000 1453    1503 0000000000 1953
0004 0000000000 0454    0504 0000000000 0954    1004 0000000000 1454    1504 0000000000 1954
0005 0000000000 0455    0505 0000000000 0955    1005 0000000000 1455    1505 0000000000 1955
0006 0000000000 0456    0506 0000000000 0956    1006 0000000000 1456    1506 0000000000 1956
0007 0000000000 0457    0507 0000000000 0957    1007 0000000000 1457    1507 0000000000 1957
0008 0000000000 0458    0508 0000000000 0958    1008 0000000000 1458    1508 0000000000 1958
0009 0000000000 0459    0509 0000000000 0959    1009 0000000000 1459    1509 0000000000 1959
0010 0000000000 0460    0510 0000000000 0960    1010 0000000000 1460    1510 0000000000 1960
0011 0000000000 0461    0511 0000000000 0961    1011 0000000000 1461    1511 0000000000 1961
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0013 0000000000 0463    0513 0000000000 0963    1013 0000000000 1463    1513 0000000000 1963
0014 0000000000 0464    0514 0000000000 0964    1014 0000000000 1464    1514 0000000000 1964
0015 0000000000 0465    0515 0000000000 0965    1015 0000000000 1465    1515 0000000000 1965
0016 0000000000 0466    0516 0000000000 0966    1016 0000000000 1466    1516 0000000000 1966
0017 0000000000 0467    0517 0000000000 0967    1017 0000000000 1467    1517 0000000000 1967
0018 0000000000 0468    0518 0000000000 0968    1018 0000000000 1468    1518 0000000000 1968
0019 0000000000 0469    0519 0000000000 0969    1019 0000000000 1469    1519 0000000000 1969
0020 0000000000 0470    0520 0000000000 0970    1020 0000000000 1470    1520 0000000000 1970
0021 0000000000 0471    0521 0000000000 0971    1021 0000000000 1471    1521 0000000000 1971
0022 0000000000 0472    0522 0000000000 0972    1022 0000000000 1472    1522 0000000000 1972
0023 0000000000 0473    0523 0000000000 0973    1023 0000000000 1473    1523 0000000000 1973
0024 0000000000 0474    0524 0000000000 0974    1024 0000000000 1474    1524 0000000000 1974
0025 0000000000 0475    0525 0000000000 0975    1025 0000000000 1475    1525 0000000000 1975
0026 0000000000 0476    0526 0000000000 0976    1026 0000000000 1476    1526 0000000000 1976
0027 0000000000 0477    0527 0000000000 0977    1027 0000000000 1477    1527 0000000000 1977
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0028	0000000000	0478	0528	0000000000	0978	1028	0000000000	1478	1528	0000000000	1978
0029	0000000000	0479	0529	0000000000	0979	1029	0000000000	1479	1529	0000000000	1979
0030	0000000000	0480	0530	0000000000	0980	1030	0000000000	1480	1530	0000000000	1980
0031	0000000000	0481	0531	0000000000	0981	1031	0000000000	1481	1531	0000000000	1981
0032	0000000000	0482	0532	0000000000	0982	1032	0000000000	1482	1532	0000000000	1982
0033	0000000000	0483	0533	0000000000	0983	1033	0000000000	1483	1533	0000000000	1983
0034	0000000000	0484	0534	0000000000	0984	1034	0000000000	1484	1534	0000000000	1984
0035	0000000000	0485	0535	0000000000	0985	1035	0000000000	1485	1535	0000000000	1985
0036	0000000000	0486	0536	0000000000	0986	1036	0000000000	1486	1536	0000000000	1986
0037	0000000000	0487	0537	0000000000	0987	1037	0000000000	1487	1537	0000000000	1987
0038	0000000000	0488	0538	0000000000	0988	1038	0000000000	1488	1538	0000000000	1988
0039	0000000000	0489	0539	0000000000	0989	1039	0000000000	1489	1539	0000000000	1989
0040	0000000000	0490	0540	0000000000	0990	1040	0000000000	1490	1540	0000000000	1990
0041	0000000000	0491	0541	0000000000	0991	1041	0000000000	1491	1541	0000000000	1991
0042	0000000000	0492	0542	0000000000	0992	1042	0000000000	1492	1542	0000000000	1992
0043	0000000000	0493	0543	0000000000	0993	1043	0000000000	1493	1543	0000000000	1993
0044	0000000000	0494	0544	0000000000	0994	1044	0000000000	1494	1544	0000000000	1994
0045	0000000000	0495	0545	0000000000	0995	1045	0000000000	1495	1545	0000000000	1995
0046	0000000000	0496	0546	0000000000	0996	1046	0000000000	1496	1546	0000000000	1996
0047	0000000000	0497	0547	0000000000	0997	1047	0000000000	1497	1547	0000000000	1997
0048	0000000000	0498	0548	0000000000	0998	1048	0000000000	1498	1548	0000000000	1998
0049	0000000000	0499	0549	0000000000	0999	1049	0000000000	1499	1549	0000000000	1999
2000	0000000000	2450	2500	0000000000	2950	3000	0000000000	3450	3500	0000000000	3950
2001	0000000000	2451	2501	0000000000	2951	3001	0000000000	3451	3501	0000000000	3951
2002	0000000000	2452	2502	0000000000	2952	3002	0000000000	3452	3502	0000000000	3952
2003	0000000000	2453	2503	0000000000	2953	3003	0000000000	3453	3503	0000000000	3953
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2005	0000000000	2455	2505	0000000000	2955	3005	0000000000	3455	3505	0000000000	3955
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2007	0000000000	2457	2507	0000000000	2957	3007	0000000000	3457	3507	0000000000	3957
2008	0000000000	2458	2508	0000000000	2958	3008	0000000000	3458	3508	0000000000	3958
2009	0000000000	2459	2509	0000000000	2959	3009	0000000000	3459	3509	0000000000	3959
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2015	0000000000	2465	2515	0000000000	2965	3015	0000000000	3465	3515	0000000000	3965
2016	0000000000	2466	2516	0000000000	2966	3016	0000000000	3466	3516	0000000000	3966
2017	0000000000	2467	2517	0000000000	2967	3017	0000000000	3467	3517	0000000000	3967
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2019	0000000000	2469	2519	0000000000	2969	3019	0000000000	3469	3519	0000000000	3969
2020	0000000000	2470	2520	0000000000	2970	3020	0000000000	3470	3520	0000000000	3970
2021	0000000000	2471	2521	0000000000	2971	3021	0000000000	3471	3521	0000000000	3971
2022	0000000000	2472	2522	0000000000	2972	3022	0000000000	3472	3522	0000000000	3972
2023	0000000000	2473	2523	0000000000	2973	3023	0000000000	3473	3523	0000000000	3973
2024	0000000000	2474	2524	0000000000	2974	3024	0000000000	3474	3524	0000000000	3974
2025	0000000000	2475	2525	0000000000	2975	3025	0000000000	3475	3525	0000000000	3975
2026	0000000000	2476	2526	0000000000	2976	3026	0000000000	3476	3526	0000000000	3976
2027	0000000000	2477	2527	0000000000	2977	3027	0000000000	3477	3527	0000000000	3977
2028	0000000000	2478	2528	0000000000	2978	3028	0000000000	3478	3528	0000000000	3978
2029	0000000000	2479	2529	0000000000	2979	3029	0000000000	3479	3529	0000000000	3979
2030	0000000000	2480	2530	0000000000	2980	3030	0000000000	3480	3530	0000000000	3980
2031	0000000000	2481	2531	0000000000	2981	3031	0000000000	3481	3531	0000000000	3981
2032	0000000000	2482	2532	0000000000	2982	3032	0000000000	3482	3532	0000000000	3982
2033	0000000000	2483	2533	0000000000	2983	3033	0000000000	3483	3533	0000000000	3983
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2035	0000000000	2485	2535	0000000000	2985	3035	0000000000	3485	3535	0000000000	3985
2036	0000000000	2486	2536	0000000000	2986	3036	0000000000	3486	3536	0000000000	3986
2037	0000000000	2487	2537	0000000000	2987	3037	0000000000	3487	3537	0000000000	3987
2038	0000000000	2488	2538	0000000000	2988	3038	0000000000	3488	3538	0000000000	3988
2039	0000000000	2489	2539	0000000000	2989	3039	0000000000	3489	3539	0000000000	3989
2040	0000000000	2490	2540	0000000000	2990	3040	0000000000	3490	3540	0000000000	3990
2041	0000000000	2491	2541	0000000000	2991	3041	0000000000	3491	3541	0000000000	3991
2042	0000000000	2492	2542	0000000000	2992	3042	0000000000	3492	3542	0000000000	3992
2043	0000000000	2493	2543	0000000000	2993	3043	0000000000	3493	3543	0000000000	3993
2044	0000000000	2494	2544	0000000000	2994	3044	0000000000	3494	3544	0000000000	3994
2045	0000000000	2495	2545	0000000000	2995	3045	0000000000	3495	3545	0000000000	3995
2046	0000000000	2496	2546	0000000000	2996	3046	0000000000	3496	3546	0000000000	3996
2047	0000000000	2497	2547	0000000000	2997	3047	0000000000	3497	3547	0000000000	3997
2048	0000000000	2498	2548	0000000000	2998	3048	0000000000	3498	3548	0000000000	3998
2049	0000000000	2499	2549	0000000000	2999	3049	0000000000	3499	3549	0000000000	3999

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